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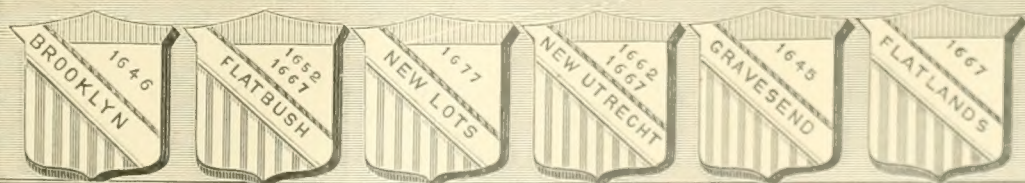
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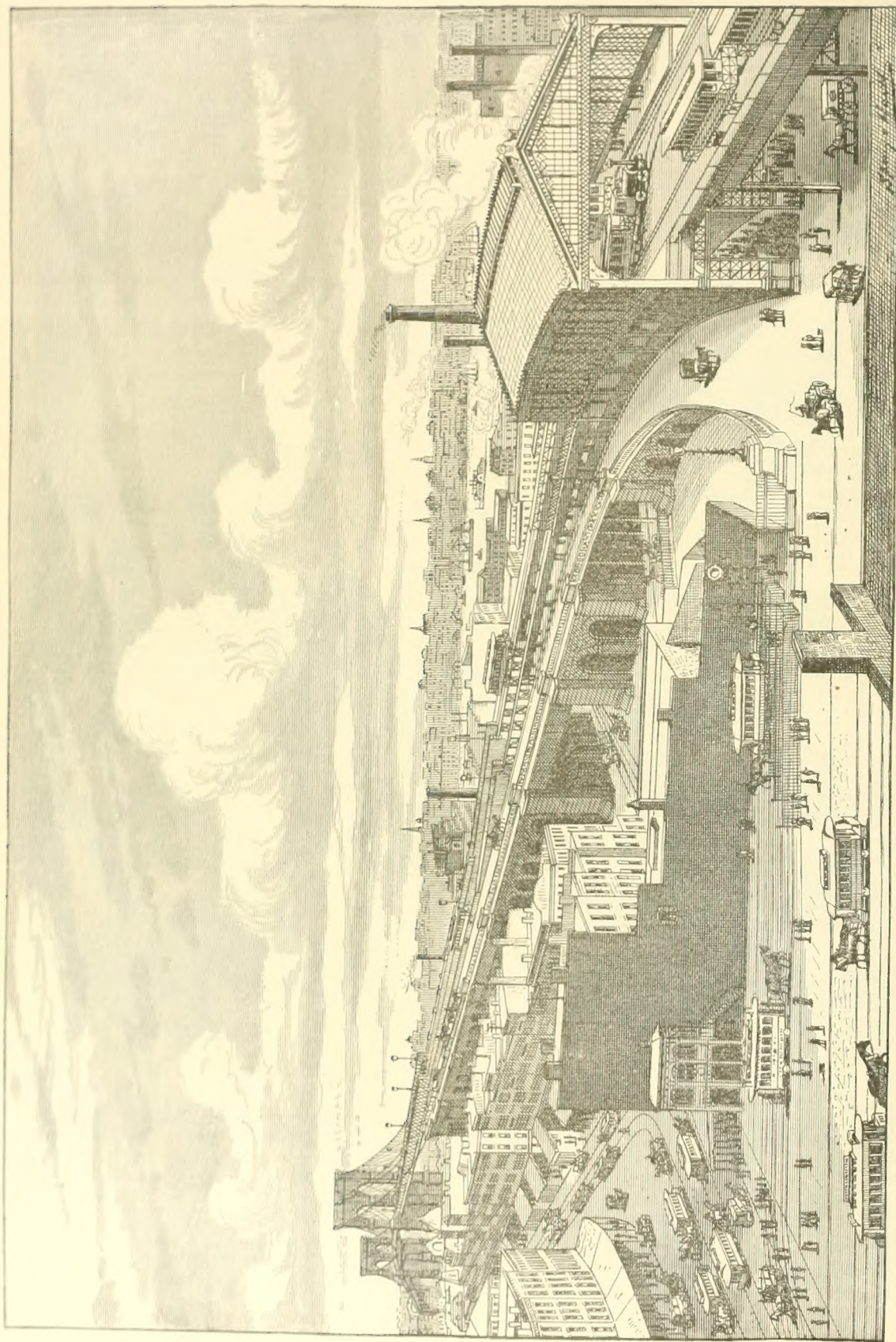
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HISTORY OF KINGS COUNTY N.Y.

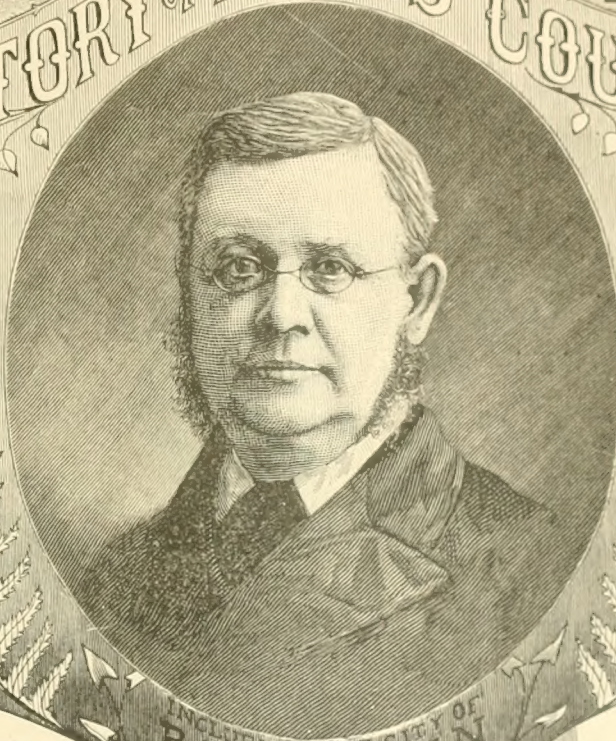




VIEW OF THE NEW YORK AND BROOKLYN (EAST RIVER) BRIDGE.

1683
TO
1883

HISTORY OF KINGS COUNTY

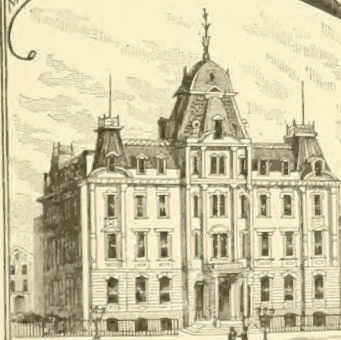


MUNICIPAL BUILDING

INCLUDING THE CITY OF
BROOKLYN
N.Y.

W. W. MUNSELL
& CO.
BROOKLYN
AND
NEW YORK

LONG ISLAND
HISTORICAL
SOCIETY BUILDING





HISTORY

COMMERCIAL AND INDUSTRIAL RECORD

COUNTY OF KINGS

THE CITY OF BROOKLYN, N. Y.

1:Y'

Formerly Librarian of the Long Island Historical Society; Member of the N. Y. Genealogical and Biographical Society, the American Ethnological Society, etc., etc. Author of the "History of Brooklyn," "The Windward Ship Series," the "History and Genealogies of Ancient Windsor, Conn.," and other Historical Works.

and

Author of "Bench and Bar of the State of N. Y.," "Laws of the State Chancellors of New York," "Lawyer and Client," "Life and Times of Thomas Addis Emmett," "Lives of Eminent American Statesmen," etc., etc.

Encyclopædia Britannica," etc., etc.

WITH PORTRAITS BIOGRAPHIES AND ILLUSTRATIONS

VOLUME II.

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THE COMMERCE OF BROOKLYN.

BY *L. P. Brockett M.D.*

UNLIKE any other great seaport of our country, or the world, Brooklyn and the county of Kings has no separate existence as a port of entry; but, while possessing an unrivaled water front, with the most magnificent docks and piers in the world, and an unlimited capacity for expansion, till it may be able to receive and store the entire products of a continent, it suffers the humiliation of knowing that all this vast commerce is credited to New York City; and that there does not exist either in the New York Custom House, the reports of the Produce Exchange, or the New York Chamber of Commerce, or, indeed, in the records of any government or mercantile office, the data for giving to Brooklyn its quota of credit for her share in this immense traffic, which has no rival on this side of the globe.

Yet our statistics of the Brooklyn commerce as compared with that of New York—statistics collected with infinite labor and pains, and the comparison of the business of the largest shipping houses with the returns of the commerce of the port of New York, officially rendered, show the following facts, viz.:

1. That the *arrivals* and *departures* of shipping, both sail and steam, at the wharves, piers and docks of Brooklyn, are to New York arrivals and departures as 9 to 7.

2. That the *grain* receipts and shipments at Brooklyn warehouses, and by ships loading and unloading at Brooklyn piers, docks and wharves, are in proportion of 76 to 24 of those of New York.

3. That the proportion of receipts and shipments of *provisions* is very nearly 80 for Brooklyn to 20 for New York.

4. That the receipts of *raw sugars* and *molasses*, from all quarters, go to the Brooklyn warehouses for transfer to the Brooklyn sugar refineries, almost wholly; hardly ten per cent. being received in New York.

5. That the receipts and shipments of *cotton* are nearly one-half at and from Brooklyn warehouses.

6. That the greater part of the *petroleum oils*, all except those for the refineries on the Jersey side, come

through the Standard Oil Company's pipes to the refineries in Williamsburg and Long Island City, and the shipments to foreign and to other American ports, go from the refineries direct on ship-board, without touching New York city, either in receipt or shipment. The whole, or nearly the whole, of the petroleum traffic belongs to Brooklyn.

7. The proportion of the receipts and shipments of *general merchandise* are the most difficult to ascertain. There are many large warehouses in New York which have, for a long term of years, received the bulk of certain articles known under this general denomination; but it is doubtful if there are not more in Brooklyn. In general, it may be said, that the greater part of the imported dress goods and dry goods come to New York warehouses; that, of imported metals—iron, steel, copper, lead, zinc and tin—about two-thirds come to Brooklyn; that teas and raw silk come generally to New York; but coffee, spices, cocoa, chocolate, flax, hemp, jute, cordage and the materials of which it is made, argols, medicinal barks, crude camphor, chemicals, bleaching powder, medicinal gums, dyewoods, dried and salted fish, guano, gypsum and fertilizers generally, India rubber, indigo, madder, oils, sulphur, bread-stuffs, bristles, dried fruits, glass, leather and manufactures of leather, paints, potatoes, salt, provisions, salt-petre, seeds, soda and salts of soda, manufactures of tin, tobacco, and perhaps of spirituous liquors, watches, wool and woollen rags, belong more properly to the Brooklyn warehouses; while books, paintings, jewelry, perfumery, paper, cabinet furniture and woods, musical instruments, etc., etc., are more generally sent to the New York warehouses. In general merchandise, while the bulk is very largely on the side of Brooklyn, as nearly as can be estimated, taking the average of the past three years, New York city has about 44 per cent. of the values, and Brooklyn about 56 per cent. This covers the whole imports, and much of the exports. We may remark, however, that the limited extent and moderate storage room of the New York warehouses, which are confined to the north and

grain, grain, and other commodities which are brought to the Brooklyn wharves, and are directly at the edge of the water. The piers, and can transfer entire cargoes to vessels, or to a single truck. Thus, one of the great floating elevators occupy 22 large warehouses, all on the Brooklyn side, besides extensive covered grain-stacks for loading and unloading. Another large set of warehouses. This is particularly true of the loading and unloading of grain for export. We have stated the amount of grain handled in Brooklyn and put on board vessels at Brooklyn docks, as 76 per cent. of the whole; but we do not mean to be understood that the remaining 24 per cent. goes into New York warehouses. Not at all. We have serious doubts whether, as matters are now arranged, 1,000,000 bushels of grain go into New York warehouses in a year; that from the Erie, Pennsylvania, and Delaware, Lackawanna & Western R. R.'s comes to Hoboken, or Jersey City, and is taken up by elevators there in the warehouses on the Jersey side, and from thence transferred to the ships. That from the Erie, Delaware and Hudson, Morris and Raritan canals, and from Albany barges, sailing vessels and steamers, goes mostly to Brooklyn direct, or is picked up by the floating elevators, and loaded on vessels either at Brooklyn or New York wharves and docks. The New York Central and Hudson River R. R. has one or more elevators of its own, but very much of the grain brought on its cars is lightered or brought by floating elevators direct to the Brooklyn warehouses.

In regard to the grain receipts and shipments, Brooklyn has virtual control of the trade. All of the regular grain warehouses recognized by the New York Produce Exchange are in Brooklyn. All of the floating elevator companies are officered by Brooklyn men, and all of these elevators—thirty-four in number—start from Brooklyn and bring grain for the Brooklyn warehouses, or load it upon vessels at the Brooklyn wharves. The president of the largest of these companies (the International), Mr. Annan, who controls 22 of these floating elevators, two of double capacity, is a partner in the great grain house of Hazeltine & Co., the occupants of Dows', the Columbus and the Irving.

The interests of Mr. George D. Puffer, President of the New York Floating Elevator Company, who run five floating elevators, are also wholly identified with Brooklyn. The same is true of Messrs. Heuber, Messrs. H. W. D. Morgan & Son, Marsh, and others. There are, in all, seven floating elevators. The entire storage capacity of all the stationary elevators in New York city, including those of the New York Central and Hudson River R. R., is about 1,000,000 bushels, and which

the New York Central is 2,300,000 bushels. Those of Jersey have a capacity of 3,000,000 bushels. Neither of them is ever full. The Brooklyn stationary elevators have a capacity of 20,000,000 bushels, and, as the Produce Exchange reports show, handled over 150,000,000 bushels of grain in 1882, and more than 200,000,000 bushels in 1881. But the grain trade, large as it is, is only one item of Brooklyn's commerce. Below Fulton Ferry, and between that and Fortieth street, South Brooklyn, are nearly twenty firms, many of them controlling large blocks of warehouses and pier sheds, who do a general merchandise business, some of them handling mainly imported goods, others both imports and exports. One of these houses already referred to, Messrs. G. C. and J. P. Robinson, in 1882, in their 52 warehouses, received and shipped merchandise valued at \$105,000,000. Another, F. Woodruff & Co., as the average of three years in their 28 warehouses, handled \$53,000,000. The receipts and shipments of the whole twenty firms can hardly be less than \$325,000,000, and may exceed that amount.

But, aside from these, there are two large oil refineries belonging to Bush and Denslow; five or six large lumber yards at the Gowanus Canal and Erie Basin; two coal yards of great extent; two rosin yards; eight ship yards, four of them with dry docks, those of Messrs. William Camp & Son being the largest in the world, and one with an immense marine railway, sufficient to accommodate the largest ocean steamships; six piers for steamship lines landing their passengers and freight in Brooklyn; three inspection yards, one for tobacco, and two for pork, etc.; five large ferry slips for the Hamilton, South, Wall street, and the two Annex ferries, to which should be added the Fulton ferry slip and the Bridge pier; the two great flouring mill piers of F. E. Smith and Jewell Brothers, and one of the Knickerbocker Ice Company's piers. There are, moreover, extensive foundries, iron works, and pumping engine works, which ship their products from these wharves and piers. There is no separate record of the number of vessels which discharge or receive their cargoes at these piers and wharves, for the arrivals and clearances are all made at the Naval Office in New York, but there must be several thousands every year. We cannot obtain any definite statistics of the business transacted or the moneys received in these various commercial houses, but in some of them we know that it amounts to many millions.

If we go back one or two streets from the water front, we shall find, for nearly the whole distance, great manufactories, machine shops, iron foundries, etc., etc., whose products are all shipped from these wharves and piers.

Northward and north-eastward from Fulton Ferry to Hunter's Point, the piers and wharves loaded with merchandise, and the numberless vessels loading and unloading indicate that the commerce is very nearly as

extensive as below that ferry, though of a somewhat different character. In the region we have already described, there were three artificial and one natural water courses and basins, stream and bay, to increase the water-front, viz.: the Erie and Atlantic Basins, Gowanus Bay and Creek, and Gowanus Canal. In the northern division (north of Fulton ferry), there are the Wallabout Bay, Basin and Canal, Bushwick Creek, and Newtown Creek and Canal. Of these, the first three and the last two add greatly to the water front of this portion of the city.

There are six ferries to New York on this portion of the water front, some of them having two or three termini in that city. It is noteworthy, also, that in this part of the water front, numerous and important as are the commercial houses directly fronting the water, the great manufactories, for two or three streets back from the shore, contribute an equal, or nearly equal, amount of their products to the commerce of the city.

Above the Fulton ferry and the Bridge pier, we have, first, two extensive coal-yards, and then long blocks of warehouses, known as the Fulton and Empire Stores. On the next street east are Tobacco Inspection Stores, the Fulton Sugar Refinery, Iron Works, Artificial Ice Machine Works, an extensive Brewery, etc. Next on the river front are cooperage and stave yards, Arbuckle's immense coffee and spice warehouses, and behind them, Taylor's foundry and engine works, Bliss' immense press and die works, Hardick's steam pump factory; next on the river are Benton's steam and gas pipe works, Nathan's coal yards, the Jay street stores, the offices of the Delaware and Hudson Canal Co., Crabb and Wilson's sugar refinery, Poillon's ship yard, and above these, the Atlantic white lead works, and the Brooklyn Gas Company. On Plymouth and Water Streets, immediately behind these establishments, are a host of great manufactories, all of them sending immense amounts of their products abroad, from the wharves below and the other piers and wharves of Brooklyn. Among these, are the great color house of Sondheim, Alsbury & Co., the paint, color and varnish works of J. W. Masury & Son, the Averill Paint Co., C. T. Reynolds & Co., Ingersoll & Co., etc., etc., the Somers decorated tin works, the Paris white, whiting and cork works of Truslow & Co., Rochow's stationary engine works, one or two large breweries, Clayton's steam pumps, &c., &c.

Beyond Gold street, the Navy Yard occupies an extensive tract fronting on Wallabout Bay, but the Wallabout basin and canal redeems a considerable district for commerce and manufactures. The Navy Yard indirectly makes a considerable addition to our commerce, in the extent of supplies of all sorts required, and brought thither from various quarters, in the arrival and departure of vessels belonging to the fleet,

and of school-ships, and in the coming of ships from the navies of other nations, either on friendly visits or for repairs.

But aside from these, the Wallabout basin and creek have two very large gas-works, a stationary elevator and mill, a large coal yard, and an oil works, a distillery, the sugar refineries of Moller, Sierck & Co., and of DeCastro and Donner, the largest retail lumber yard in the United States, that of Cross, Austin & Co., the Knickerbocker Ice Co.'s largest depot, and a very large lath and brick yard. Back of these again are numerous large manufactories, the great book factory of Messrs. Appleton & Co., steam pump works, several stone and marble works of great extent, particularly that of Gill & Baird; the Royal Baking Powder Co., an immense establishment, the New York Tartar Co., etc., etc.

The extensive ferry-house of the Roosevelt and South Seventh street ferries occupy a considerable space, but are succeeded immediately by the great sugar refineries of Havemeyer & Elder, the Brooklyn, the Long Island, another of Havemeyer & Elder's, and Dick & Meyer's refinery. Sugar refining is the largest manufacturing industry of Brooklyn, its annual product exceeding \$100,000,000, and most of it is concentrated in this district. The sugar refineries are also important in this commercial aspect, as more than nineteen-twentieths of the sugar which they refine is imported direct for them, and a large proportion of their products are exported or transported by our shipping to other Atlantic ports. Here are also two or three large lumber yards, one shipping yard, one large cooperage, four stave yards, the Philadelphia and Reading Coal and Iron Co.'s yard, a gas-light company, and the immense oil works of Charles Pratt & Co. The ferry-house of the Grand street ferry is also in this district, and at the northern limit of the district, Bushwick creek enters the East river. At its junction, the Quay street Continental iron works are situated, an immense establishment for building and fitting steamships, supplying boilers, engines, shafts, &c. Here, also, is John H. Engles & Son's great ship yard, and the Manhattan Compress and Pipe Factory. The Greenpoint ferry, having two termini in New York, comes next. From this to Newtown creek, are mostly lumber yards, spar and box yards and factories, and Hara-way's extensive dye works. Along the Brooklyn side of Newtown creek are the Devoc Manufacturing Co., and Empire oil works, the Greenpoint glass works, very extensive, and Charles F. Havemeyer's sugar refinery, as well as some other lumber yards, a Bohemian glass manufactory, the vast chemical works of Martin Kalbfleisch's Sons, and the L. Waterbury & Co. ropewalk, said to be the largest in the world.

The warehouses and great manufactories along the East river and Newtown creek, above Fulton ferry, have an annual business of more than \$250,000,000.

hundred feet wide, and has wharf room for one hundred and fifty vessels. It has a depth of more than twenty feet of water at low tide, so that very large ocean steamers can be loaded or unloaded there. The first cost and present value of this property exhibits very clearly the progress of Brooklyn in commercial greatness within forty years. "The land and water rights for this great property" (which included land extending to or beyond Hamilton avenue), were purchased for \$158,000, payable in stock, and the circumference was apportioned into 540 lots, valued at from \$400, for the front lots, to \$250 for those in the rear, the whole aggregating \$640,000, which was the contemplated cost of the docks.

As we have said, there are now more than twenty acres of warehouses and eight elevators on these docks, but independent of the value of these, or any buildings on this property, the present value of the land and water rights exceeds twelve million dollars.

The Erie and Brooklyn Basins were next in order of time. These, also, originated in the fertile and enterprising brain of Col. Richards, though their actual designing and building were the work of Jeremiah P. Robinson; and the construction of both the basins and their warehouses has been under the superintendency of William Beard. The owners of the Erie Basins and the land bordering on it are J. P. & G. C. Robinson and William Beard, and they and Franklin Woodruff, and one or two other parties, also own the Brooklyn Basin and the lands adjacent.

The two companies own, or did own, at the beginning of their enterprise in 1856 or 1857, with the exception of some small tracts nearest to Hamilton avenue, the entire territory bounded by Van Brunt street, Hamilton avenue, Gowanus Creek, south of Hamilton avenue, and the water rights now bounded by the piers and wharves of the Erie Basin. Much of this territory was under water at high tide, and most of the remainder was inhabited by squatters, even as late as 1864, when the immense excavations having been completed, the foundations of the docks were commenced by the driving of piles, 25 feet in length, close to each other, driven even with the surface, and bedded with concrete. On this foundation were reared massive superstructures of solid stone, faced at the water fronts with granite. The first of the dry-docks was completed in October, 1866, and a vessel admitted to it. There are now three of these dry-docks, capable of receiving the largest steamships and merchant vessels afloat, even when loaded. Large warehouses have been erected upon both sides of these docks for the reception of the cargoes of laden vessels seeking the use of the docks, and for general storage. There are now 52 of these warehouses around the Erie Basin, most of them four stories or more in height, 132 feet in depth, and 29 feet in breadth, which are occupied by Messrs. J. P. & G. C. Robinson alone for their extensive warehouse and storage business.

Many others are occupied by other firms engaged in the same business. The whole water area of the two Basins (the Brooklyn and Erie) is the area of which 60 are included in the Erie and 40 in the Brooklyn Basin. The owners secured in the beginning 1,000,000 square feet of submerged territory, beside all the land which they purchased, and most of which was filled up from excavations made for the Basins.

JEREMIAH P. ROBINSON. The career of this worthy gentleman is another illustration, as well as the history, which our free institutions and unlimited privileges of free abiding citizens vouchsafe to the diligent, active, faithful and honest workers in the land, as it is to the fact that without earnest labor and unceasing toil no great wealth or success can be attained.

Mr. Robinson commenced his business life a poor boy, and has gained an enviable reputation and an abundant future, and is now entitled to spend the remainder of his days in peace and quietude, if he so desires, without further struggles with the problems of life than those which will come to him in his works of kindness and charity to his fellows.

True, he had the advantage of a long line of ancestors, both paternal and maternal, noted for honorable and praiseworthy conduct; and this alone always endows the youth about entering upon the career of manhood with an independent and fearless spirit. He now looks back to the history of his ancestors, so far as he is able to trace it, and can find no smell of fire upon their garments and no blot upon the family escutcheon. Among the first settlers of Rhode Island, those ancestors were contemporaneous with Roger Williams, who settled in Providence in 1636; since which time their descendants have been known in all parts of the land, in the pulpit, in the forum, on the bench, and in almost every branch of business.

On the Robinson side, William Robinson, six generations removed from the subject of our sketch, was a prominent man in Rhode Island. Sturdy and industrious, he became well known in the province as one of its most thrifty and valued citizens, and was frequently called to positions of high official responsibility. It is not important for the purposes of this sketch to trace fully the characters of all his progenitors. It is sufficient here to say that Governor William Robinson was the great-grandfather of Christopher Robinson, a prominent and wealthy man of his time in Rhode Island. Christopher was the father of George C. Robinson, the father of the subject of this sketch.

George C. Robinson was a young man of great energy, courage and commercial enterprise. As many of the most promising of the youths of that period in that locality chose to follow the sea as a profession, George cast his lot in that direction. So marked were his ability, integrity and manly qualities (for none could attain the position without all of these recommendations in those days) that he soon became captain of a ship in the East India trade, and pushed his prow to the shores of countries as remote from his native land as any who sailed the then almost unexplored seas. He married the daughter of Jeremiah Niles Potter while quite young, and was suddenly stricken down, when he was but of the age of thirty-two, leaving five small children fatherless, and without direct parental means of support. Of these children, Jeremiah P. Robinson was the eldest.

Having briefly alluded to his progenitors on the maternal side, it seems proper to state that the American progeny of the paternal side of the Robinson family was represented

was for many years Judge of the Superior Court, from both kings, George II. and III., and is still extant and in the possession of Jeremiah Niles Potter. The family is proud to trace to him the lineage of the families to which the original settlers of Rhode Island, was a man of considerable wealth and high character. One of his sons married into the Niles family, and had a son named Jeremiah Niles Potter, who was the father of Mary Niles Potter, the wife of Captain George C. Robinson and the mother of Jeremiah Niles Robinson. It will thus be seen that Mr. Robinson traces his lineage on both his father's and his mother's side back through many generations of honorable men and women; and his Christian names are taken from the two distinguished families on his mother's side.

As before stated, upon the death of his father the mother and children were left in straitened circumstances; but the mother's father, Jeremiah Niles Potter, quite a large landed proprietor, took his daughter, with her five helpless children, under protecting care at his home in South Kingstown, near the present village of Wakefield, Rhode Island, and gave his grandchildren such limited advantages for education as at that time were afforded in that locality, until they were prepared to undertake the struggle of life for themselves, the mother remaining at the old homestead until her death.

Jeremiah Niles Robinson was born on the 18th day of August, 1819, in South Kingstown, Rhode Island, and is now (1883) sixty-four years of age. It would seem that he early developed an independent and fearless spirit. When about twelve years of age, having been used to the labor and toil to which farmers' boys of that period were subjected, and having had but limited opportunities for obtaining an education, he went to Newport and entered the grocery store of his uncle, Stephen A. Robinson, where he attained the position of accountant. Here he remained about two and one-half years, when he returned to his grandfather's farm for a short time. In 1836, at the age of sixteen, he went to New York. Parental affection and anxiety interposed objections to his undertaking, at that early age, to "paddle his own canoe," but the boy was mildly persistent, and finally obtained permission to go.

New York was then a comparatively small city, but to the adventurous boy it was his ideal of an opportunity to make himself a man, and his fondest hopes have been more than realized. He applied to various business houses for employment, visiting nearly all parts of the city, but failed to discover anything which met his idea of properly starting upon his business career; until, after long and weary search, he secured employment in the firm of J. P. & A. Woodruff, jobbers in fish, salt and provisions. Under this engagement he was to be boarded in the family of his employers, for which he was to give his labor for two years, he clothing himself. He entered upon the performance of his duties with a will, and soon exhibited the possession of those sterling qualities

which have borne him ever on to success. His pay was steadily increased. He was prudent, economical and painstaking. His strict attention to business, steady habits and pleasing demeanor drew the attention of many leading business men to him, and flattering offers were made to him to leave his old employers; but he steadfastly stood by them, attending to their affairs so faithfully that, at the end of his fourth year's service, he was offered and accepted a partnership in the

firm of the Messrs. Woodruff. From this time on he has held a high place in the business world. He immediately took charge of some of the most important business interests of the concern. After a few years, Mr. E. P. Woodruff died, and the style of the firm was changed to A. Woodruff & Robinson. This firm soon added the warehousing and storage departments to their other business, thus becoming the pioneers in this line, and prosperity marked their course until, a few years later, Mr. Woodruff retired from the firm, and the business was continued under the firm name of J. P. & G. C. Robinson. Thus, in a comparatively short time, Mr. Robinson rose from the boy working for his board to the head of one of the oldest, largest and most prosperous business concerns of its kind in the metropolis. G. C. Robinson of this firm is a younger brother of his.

It is a fact worthy of note, that, with the exception of two years, when the offices of the concern were in Front street, his business desk has stood within seventy-five feet of where it now stands for forty-five years; and he has, nearly all his life, done business on what is almost literally the site of the old house of the Messrs. Woodruff, when he entered their service as a poor boy. Sometime about the year 1843 he began to look with much interest across the East river, from his then home in New York, upon the growing city of Brooklyn, and soon began to purchase large blocks of real estate on the Brooklyn river front, and to improve the same by building warehouses and piers at the foot of Congress and Warren streets. He was among the early pioneers of the great warehouse business of Brooklyn, which exists to-day to the benefit of the city. A few years later, in company with WILLIAM BEARD, he became interested in water front in South Brooklyn, and they began the work of planning and constructing the great Erie Basin and the adjoining basins, building piers and warehouses until at this time there is a wharfage and dockage of several miles, where vessels may be laden and unladen at this vast receptacle. It is the largest and most comprehensive dock system in the world under one management, and is one of the most important improvements made for the city, and it is predicted that in the near future it is destined to play an important part in the commercial interests of both Brooklyn and New York. Mr. William Beard, with whom Mr. Robinson has been so long associated, is still largely interested in these land and harbor improvements, and the firm of Beard & Robinson are still carrying on gigantic improvements which must inure to the public benefit; and both patrons deserve great credit for their energy, courage and sagacity, in bringing into use the waste lands and sand beaches of Brooklyn's water front.

In this connection it is proper to say that Mr. Robinson has ever taken great pains in looking after the rights and interests of laboring men. Whenever he has had opportunity to ameliorate their condition, either by counsel with those who had control of works where labor was employed, or in his own business, which in many directions necessitates the employment of many laborers, he has shown, in theory and practice, his desire and willingness to elevate and assist the honest laborer. In the great warehouse business, both at Mr. Robinson's Congress street stores and at the Erie Basin, where Mr. Beard and he are together interested, great care is taken to pay each laborer and employé liberally for any extra service; the result of which is that the laborer is pleased with his employers, and the employers are able to retain for many years faithful men who have their interests at heart. Thus should it be with capital and labor everywhere.

Mr. Robinson was one of the prominent supporters of the great East River Bridge enterprise, now so successfully estab-



James P. Johnson



William Boring

lished. As a bridge trustee, he ever gave faithful and intelligent attention to all the details of its progress and management, and honorably filled the responsible office of President of the Board of Trustees through the most trying and difficult portion of the work.

We have thus spoken of Mr. Robinson in his general relations as connected with New York and Brooklyn; but during all the time alluded to, he has extended his acquaintance and business connections not only over the Middle States and all New England, but largely into the British Provinces. He was for many years claimed to belong exclusively to New York city as a citizen; but, since about 1843, when he removed his family to Brooklyn, Kings county has claimed him as her own.

One of the most interesting and important events in his life has thus far been allowed to remain unnoticed in this sketch, and that is his marriage, at the age of twenty-four years, with a most estimable and charming lady, Miss Elizabeth DeWitt, of Cranberry, New Jersey. Space does not permit us in this article to adequately estimate this lady's strong character and many virtues, and hence it will not be attempted. It is enough to say in this connection that she bore him five children, two sons and three daughters.

One of the sons, Mr. Isaac Rich Robinson, resides on the old homestead. This estate, together with six hundred and fifty acres adjoining, is now owned by his father, who keeps the old place, as sacred to the memory of Grandfather Potter and the fond recollections of his childhood's days.

His son, Mr. Jeremiah P. Robinson, Jr., is largely connected in active business with his father. He is widely known in business circles already, and it is acknowledged that he is most capable and far-reaching in his transactions. It may be well for the father to look well to his own laurels lest his son and namesake should overshadow them. It is thought, however, that the father would regard such an occurrence with complacency.

Mr. Robinson and his family are attendants at the Church of the Pilgrims, of which the Rev. Richard S. Storrs is pastor, and he has contributed liberally towards its support, and all charitable objects in which it is engaged. It may be stated as an interesting fact in this connection, that for a period of one hundred and fifty years, the old Congregational church of Braintree, Mass., was presided over by only three pastors, each for about half a century. Rev. Samuel Niles, brother of Jeremiah Niles, who was a relative of Mr. Robinson, was the first, and the father of the Rev. Dr. Richard S. Storrs, was the last.

Personally, Mr. Robinson is an unusually popular and liberal-minded gentleman. In his social relations, he is courtly, but unostentatious. He is not fond of glare and glitter, pomp and parade, but rather of that modest comfort and real social entertainment, which may be had among men and women of brains and heart. He is not a patron of the halls of fashion and show, but may be found among people of sterling worth and good sense.

In politics, he is accredited to the democratic party; but, we think it may safely be said of him, as it may of many others of his class, that political garments, in a partisan sense, sit so loosely upon his shoulders, that he finds no difficulty in throwing them off, when his party goes astray, either in men or measures. He has often been importuned to run for offices of high trust and honor, but has always persisted in declining even to have his name used as a candidate before nominating conventions. Good men think that, should he have consented to allow the use of his name as a

candidate before the people, party lines would have been obliterated, and he would, in addition, have secured a nation of party connections.

Of such a man, it is not surprising to find that he commenced at the bottom of the ladder and has ascended higher than most men ever get. He did not come to this country himself and readily and gladly made his way to the poor. He has endeavored to do good to others, and particularly largely to the poor, and in a generous way. He has been a builder, not a destroyer, a peacemaker, not a warrior, except where peace has been the way to repel the war. He has builded as the builders build.

STATIONER, PRINTER, AND BOOKBINDER,
LITHOGRAPHER, AND ENGRAVER,
THIRD FLOOR, CORNER OF FIFTH
AND NASSAU STREETS.

His temple is near complete, and long may he live to enjoy its occupancy, and remain a life-long and a most welcoming host of his many friends.

Broad-shouldered, deep-chested, large-hearted, fair-minded, kind and genial, firm and strong, Jeremiah Potter Robinson stands with commanding presence to-day in the zenith of his manhood, admired by all those who know him well, and the peer of all honorable business men throughout the land.

WILLIAM BEARD was born in the town of Foxhall, County Westmeath, Ireland, in 1804. He lost his mother before he was two years old, and his father at the age of seven years. After the death of his father he lived with his uncle till he arrived at the age of fourteen; leaving at that age to work at the stonemason's trade, at which he was employed in Ireland until he reached the age of seventeen, when he emigrated to England, arriving there in May, 1821. He was first employed in England by a small contractor at ditching, harvesting, general labor, and afterward worked in a quarry a short time, and more or less at his trade as a stonemason. In May, 1825, he sailed from Liverpool for New York in the sailing ship *Edwards*, Captain Edwards. On account of adverse winds the vessel did not arrive in New York till August, it having taken three months to make the passage now made in seven days. Having with him a traveling companion named John Rankin, whose passage he had paid, he found upon his arrival that, although when he concluded to start he had been possessed of one hundred pounds sterling, he did not then have more than two hundred dollars. He found the chances of obtaining employment here poorer than in England. The year 1825 being one of the hardest years financially that this country had yet seen, employment was very difficult to obtain, and wages were very low.

His first employment in the New World was in a silk factory at West Farms, N. Y., at twelve dollars and board per month. The proprietor of the factory failed five weeks before Mr. Beard entered his service, and did not pay him a cent of the wages due, and when he had paid his board his capital was nearly exhausted. His next employment was with a stonemason at or about the site of the present large reservoir in New York at twelve dollars per month and board. He remained with him for four or five weeks, but became suspicious of his employer, as he had been informed that the latter had paid a man who lately worked for him in counterfeit money, and left without asking for his pay. His next work was for Francis Bretane, who had at that time a beautiful residence at about where the corner of Eighth Avenue and Third Street now stands. He remained with him

ward Mr. Beard was building a stone wall, ditching and grubbing by contract for Mr. Thomas Mulliner, who had a residence on the site of the present Deer Park in Central Park, New York. This was the first contract he ever took, and it cost him a considerable amount of money that he had made. He also dug a well for the same party, at the same place, for which he received forty dollars, he and another man doing all the work in one day, and he began to think this was not such a bad country after all, and to believe there was good luck in store for him.

He was married to Mary Johnston in New York on January 1st, 1826. He then located in Yorkville, and took a contract to grade and build some lots located at different points about Harlem. He also graded a number of lots, built stone walls, and did other work for Alderman Hall of the Twelfth Ward, New York. At that time the Twelfth Ward extended from Fourteenth street to Harlem River. The first work he did for the City of New York was accomplished at this time. He built a stone wall to protect the Third avenue, and also graded the street. He was recommended to the authorities by Alderman Hall, and as he offered to do the work for one-half what another contractor offered to do it for, they awarded the contract to him. He remembers well the price he received—\$500. It cost him just \$250 to do the work, leaving him a profit of \$250, which he considered at that time a very large sum of money. He then took a contract from the City to grade Third avenue from Sixtieth street to Eighty-sixth street, cutting through the rocks, filling the low land, and building walls to protect the embankment. He also graded Bloomingdale Road at several points, widening the drive and filling the old deep hollows. In the year 1831 the Corporation of New York concluded not to let any more work by contract, but to hire the contractors with their men and teams to do the work of the City by the day. Mr. Beard and his men, horses and wagons were thus employed by the day during that whole year, and he was paid a commission on his profit. The next contract was for constructing the Harlem Railroad from Center street toward the Harlem River, he doing all the grading from Fourteenth street to Sixtieth street, cutting through the rocks at Murray Hill, etc., operations which had been begun the previous year by another contractor. Mr. Beard, knowing Mr. Beard, sent for him, and insisted on his taking the work. During the time he was working on this contract he was recommended to the Corporation of New York. His next work was to build a railroad between New York and New Brunswick, N. J. At the same time he built a dock for Captain Gibbons at Elizabethport. Old Commodore Vanderbilt was then in Captain Gibbons' employ as captain of the boat that ran from New York to Elizabethport, and during this time Mr. Beard and Mr. Vanderbilt were on the boat. He also built the Brooklyn and Jamaica Railroad from South Ferry to Bedford, after which he took a contract to build two

sections of the conduit for the New York Water Works, one section near Yonkers, and the other near Bloomingdale. At this time (1835 and 1836) he was also engaged in grading and paving a number of streets in the city of Brooklyn, among them Myrtle avenue, from the City Hall to Bedford avenue; Atlantic street, from South Ferry to Bedford avenue; Union street and Strong Place. A few years later he graded and paved Montague, Pierrepont and Joralemon streets, and Ewen street, Brooklyn, E. D. During 1854 and 1855 he graded and paved Broad street and several other streets in Newark, N. J. In 1839 he constructed a section of the Albany and Boston Railroad near Worcester, and another near Pittsfield, Mass. He also built another section near Chatham Four Corners, N. Y. Next he built twenty miles of the lower end of the Long Island Railroad, and in 1846 a section of the New Jersey Central Railroad at Somerville, N. J. In the spring of 1844 he started the great excavation for the tunnel for the Long Island Railroad in Atlantic street, completing the work in 1845. At about this time he built a section of the Morris Canal at Dover. He was engaged, too, in the construction of the viaduct bridge on the Erie Railway at Lainsborough. In the years 1856 and 1857 he constructed water works at Carleton, St. Johns, N. B. This was a very large contract. In 1857 and 1858 he was engaged in performing a Government contract to improve the navigation of the Mascougan River at Grand Rapids, Mich., which was also an extensive contract.

Since his arrival in New York, he had watched the rapid growth, both of that city and of Brooklyn. After his permanent settlement in Brooklyn, in 1840, he looked around for profitable investments, knowing that there could be scarcely a limit to the extension of the city toward the east. He also saw that still there was a limit to available water front on our shore; and that, as the county grew, and both cities increased, an investment in water front lots must, in time, become profitable. Looking around for any opportunity to invest, in 1843, he bought one-half interest in what is now known as the Erie Basin, extending from the foot of Conover street to the foot of Columbia street, from George Hall, who was the first Mayor of Brooklyn. For a few years after the first purchase there was very little done to improve the property. A year after, Mr. Beard bought another quarter of the interest held by Mr. Hall, and then commenced to make improvements. At the time of the first purchase, Red Hook Point was a barren waste, a great sand hill cutting it off from Brooklyn proper. There was hardly a building to be seen south of Atlantic street, and not a single one south of Hamilton avenue; in fact, Hamilton avenue was not paved at that time. Beyond the sand hill there was a long stretch of sand beach, extending from what was at that time known as Red Hook Point, to Bompties Hook. In the rear of the sand beach or sand strip, a low flat marsh extended nearly to Hamilton avenue, that is east of the sand hill first referred to. The sand hill extended toward Buttermilk Channel, and the marsh from the base of the sand hill to Gowanus Creek. Shortly after Mr. Beard's last purchase from Mr. Hall, Mr. Jeremiah P. Robinson purchased from Mr. Hall his remaining quarter. The improvements then began in earnest at Erie Basin, Mr. Beard having retired from active contracting, concluded to devote his whole time to the work and pride of his life (the completion of Erie Basin). The construction of the Breakwater, 300 feet wide, which surrounds the Erie Basin, was commenced, extending from foot of Van Brunt street out in the Bay, nearly 1,000 feet, and from that point east, about 4,000 feet to Columbia street, thence north, about 2,000 feet to the original beach. When the fact is taken into consideration that the water was of no great depth outside of the

original beach, the magnitude of the work can be conceived. When we consider also the fact that ships and steamers can come alongside of the docks, drawing 25 feet of water and discharge their cargo, where but a few years ago there was less than eight feet of water, it is easy to imagine the great expense incurred by Messrs. Beard and Robinson in dredging the bottom of the Bay so as to obtain sufficient water to accommodate the vessels desiring to use these docks. During the construction, and after the completion of the Breakwater, they commenced erecting warehouses for the accommodation of merchandise. But few persons, besides themselves, believed that it would be possible to get merchandise to store so far from what was then the center of warehouse business. But time has proven the truth of Mr. Beard's first idea, viz.: that the port of New York would need all its shore facilities; and now what a few years ago was but a sand beach, has been turned into one of the busiest and most important commercial warehousing depots in this port—with its docks lined with warehouses and grain elevators, ships arriving from all parts of the world with their cargoes of merchandise, and canal boats from the West with cargoes of grain, to be placed in store on the sea board, ready for transshipment to any part of the world.

The great *Anglo-American Dry Docks* are also located at Erie Basin. They, like the Erie Basin, are gigantic in extent, being the largest dry docks on this continent; and the largest ship that floats, excepting perhaps the "Great Eastern," can be placed in these docks and in an hour will be sitting on high and dry keel blocks, when repairs may be done as conveniently as before they were launched.

Messrs. Beard & Robinson, in order to carry out their plans in full and utilize the water front to the best advantage, found it necessary to extend their purchases of shore front lots whenever offered in the market, till now their possessions not only extend to the line of Columbia street, but to the Gowanus Canal, including all that property that was known and described in the old maps of Brooklyn as Bompies Hook and Bushnell Basin. They are not only continuing their improvements in the Erie Basin, but are fast reclaiming the waste flats, south of Hamilton avenue; grading the streets and filling the low lots, so that Rip Van Winkle, if he were to arise from his sleep, would not recognize that portion of the Twelfth Ward.

It must be admitted that the conception and construction of Erie Basin in all its details, was the work of master minds and hands. When we look back at what it was but a few years ago and see what it is now, it goes without saying that Messrs. Beard & Robinson deserve the thanks of their fellow-citizens for the work they have accomplished unaided and alone. They have added to the port of New York that which is of lasting value to its commerce, and to the City of Brooklyn, thousands of dollars worth of valuable property which, but for their sagacity and enterprise, would no doubt to-day be in the same crude state that it was forty years ago.

They foresaw the future, as year after year they stuck to their enterprise, planning and executing, each year burying thousands of dollars under the water where it could not be seen; but they kept steadily on during peace and war, during commercial prosperity and adversity, with only one object in view, viz., to make the *Erie Basin* the most convenient commercial depot on this continent.

Future generations may reap the reward of their skill and labors. It is not possible for them during their short lives to obtain from their investment that return which they deserve. William Beard and Jeremiah P. Robinson will both pass away; but, while the city of Brooklyn and the port of New York exists, their names and labors will not be forgotten.

The Erie Basin. The shores and piers of the Erie Basin are of enormous area, the greatest one, which extends from E. 12th street to the foot of Columbia street, and thence on the south and south west walls of the Basin to its entrance on the west side, being 200 feet wide and 1,000 feet in length. This is all built on piles, with cellulose stone the whole width, filled in with the concrete earth, and faced, for the whole 2,000 feet of the exterior wall, with granite. On the north side of the Basin are two slips of large size, three of which are occupied by the dry docks before mentioned, which belong now to the *Anglo-American Dock Company*, and the others by shipyards, iron works, &c.

Adjoining this Basin on the west are three other protected slips, which are also used, as delivery and shipyards. In addition to the Dry Dock Company's docks, Messrs. William Camp & Sons have two others in the Basin, which are said to be the largest in this country, if not the largest in the world. In one of these (No. 2) the City of Berlin and, we believe, also the Alaska, were docked for repair of injuries. These docks were built by J. E. Simpson & Co., of New York. We subjoin a description of them from the *Brooklyn Eagle* of March 24th, 1883:

"The docks are built upon spruce pile foundations throughout, the floor foundation piles being driven in rows spaced three feet from the centre, transversely, and about four feet eight inches longitudinally, upon which are fitted and secured heavy transverse floor timbers of yellow pine, covered with spruce planking to form the floor, and carrying the keel-blocks, the latter being additionally supported by four rows of piles, firmly driven under the floor timbers, and capped with heavy yellow pine timbers along the axis of the dock.

The heads of these piles along the keelway are also enclosed in a continuous bed of Portland cement. Open box chains are provided on each side of the keelway, beneath the floor timbers, leading to the chainage culverts at the head of each dock. The sides and heads of the docks are built with a slope of about 46 degrees; the altars to high water level are of yellow pine timber, nine inches rise and ten inches tread, and bolted to side brace timbers, which are supported by piles and put upon the ends of the floor timbers. The altars are carefully filled in behind with clay puddle, as the sides are built up, and from the level of high water to the top of the coping the sides are built of concrete *en masse*, faced with artificial stone, the altars being continued of the same material to the coping level. Lines of close-sheet piling of tongued piling inclose the floor of the dock, and also extend entirely around the dock outside of the coping and across the entrance of the outer end of the apron and at each abutment, forming cut-offs to exclude the tide water, &c. An iron caisson or floating gate is used to close the dock, and it is made with sloping ends, corresponding substantially with the shape of the dock, and the lower ends of the caisson rest against the sill and solid timber abutments the whole length of the dock and head of the dock.

"Each dock has two gate sills and abutments, the outer one being provided chiefly to facilitate examination of and repairs to the inner or main one generally used. The joint is made rubber tight by means of a rubber gasket secured to the face of the sills and abutments. The principal advantages

With the exception of the great Bermuda Dock, these are the largest in the world.

This Basin has wide piers, with large warehouses and sheds for the storage of goods, and for dry dock and ship building purposes. It is now controlled by different parties, and from its different entrances has lost, in a measure, its distinctive character.

At the age of 18 he became a clerk in the house of Messrs. J. Woodruff & Company, of New York, one of the oldest and best established firms in the United States. His connection with the firm was so marked that, three years later, he was given a partnership in the business. January 1st, 1858, Mr. Albert Woodruff, one of the founders of the house, retired, and Mr. J. Woodruff & Company was reorganized in the name of Messrs. J. Woodruff & Sons, and continued to carry on the business of the firm.

Mr. Woodruff continued in the same line of business, and is now one of the most extensive dealers in foreign and domestic salt and salt fish in the United States, and one of the heaviest importers of salt as well, frequently having under charter, from the Mediterranean and other foreign ports, from twenty-five to thirty vessels at a time. He is also the owner of the large block of warehouses at the foot of Joralemon street, known as "Woodruff's stores," and of extensive warehouses at the Atlantic Docks, doing one of the largest storage businesses done in the city. He has spent several hundred thousands of dollars in building stores and covered piers, and otherwise improving the Brooklyn water front, and has been one of the most active in bringing thither a large portion of the business of the port of New York. At his several warehouses skilled and unskilled labor finds employment to the aggregate of more than a quarter of a million of dollars per annum. His interests in this department are so extensive as to constitute him one of the largest warehouse owners in the country.

Mr. Woodruff has been a republican since the organization of the republican party, and on all questions of National importance has sustained its men and measures. In the municipal affairs of Brooklyn he has long taken a deep interest, and for several years was one of the most active of the better class of city politicians. At the organization of the Committee of Seventy-five, he was identified with it, and was chosen its president. He was one of the first Commissioners of Election under the new charter, serving as such until his resignation. In 1879 he was the candidate of his party for the mayoralty. It was a year when the city went largely democratic on the state ticket, and he was consequently defeated.

Mr. Woodruff has been twice married, and has four children living. Three have died. Mr. Woodruff is now in the prime of life, the embodiment of health, and full of energy and the enterprise which have made his name so well and widely known, with apparent promise of being vouchsafed many more years of usefulness. In all of the relations of life he has always enjoyed, in a marked degree, the respect and confidence of all with whom he has associated. It is such men as he who build up substantially for the good of the public with which they are identified, and he is one of those citizens of whom Brooklyn has a right to be proud, in view of his successes, and their influence on the commerce and other important interests of the city.



Franklin Woodruff

Gowanus Bay and Canal.—We have spoken of the improvements which have made Gowanus bay a perfectly safe, land-locked harbor for vessels of moderate draught, not exceeding 15 feet at low water. The *Gowanus Canal Improvement Commissioners*² and the *Brooklyn Improvement Company*[†] have extended Gowanus creek as a canal, 100 feet in width, and varying in depth from 12 feet at low water to 16 feet at high water. The main canal extends from Hamilton avenue to Baltic street, a distance of a mile, and there are five branches of the same width and depth with the main canal, and which have an aggregate length of about two-thirds of a mile more. Wharves and docks have been built along the whole course of these canals, and the entire water front along them is about three and a third miles. Immense lumber yards, coal yards and flouring, plaster and other mills, and brick and stone yards, occupy the whole available space.

At the entrance of Gowanus creek, on the east side, are the extensive piers and the small basin, or slip, where Messrs. Downing & Lawrence's shipyard and marine railways are situated. The object of these railways is to draw the ships which need repairs upon ways, where they will be entirely out of water, and can be coppered anew, or their hulls painted, or receive other repairs. The dry docks accomplish the same purpose by floating vessels into the dock, closing the gates and pumping out the water; and the sectional or floating docks, of which there are several in this vicinity (though none of the largest size), lift the vessel up as it lies in

* GOWANUS CANAL IMPROVEMENT COMMISSIONERS. AN Act was passed, April 19, 1866, to improve Gowanus canal. W. M. Harris, S. D. Voorhees, W. G. Libby, C. Dever, J. H. Watson, W. M. Thomas, J. L. Spader, J. Booth, and C. J. Sprague, together with the Mayor of Brooklyn, and County Treasurer of Kings County, were appointed Commissioners for improving Gowanus canal, and the channel in Gowanus bay, from the north of said canal to and beyond the bar at, or near, Percival street. The Commissioners were authorized to cause the sides of Gowanus canal, and the channel of Gowanus bay, to be docked, and to deepen the canal by dredging, to 7 feet at low water, at Douglass street, and 12 feet at low water, at its end, with gradual depths from head to such point. To pay for this improvement bonds of the city to the amount of \$175,000, at 7 per cent. interest were to be issued, to be paid each year; assessment district, 200 feet back from canal.

Act amended May 10, 1867, making issue of bonds \$350,000, and increasing powers of Commissioners in constructing and repairing docks on line of canal, and to take charge of bridges.

Act amended May 6, 1868, authorizing Commissioners to rebuild and raise bridges.

Act amended May 6, 1869, authorizing Commissioners to expend \$100,000 additional, making a total of \$450,000.

Act passed May 10, 1869. Commissioners directed and required to complete improvement without delay, and report on or before the first Monday in June, 1870, to the Common Council, the total cost of, and amount necessary, to complete same, and detailed statement of all monies received and expended, and to file in the office of the Street Commissioners, maps, profiles, &c ; also discharging Commissioners from charge of said improvement. All further work to devolve on the Common Council.

Act of April 10, 1873. Owners authorized to build branch canal 50 feet wide and 6 feet deep, at low water, on 1st street, from main canal to Third avenue.

† BROOKLYN IMPROVEMENT COMPANY.—January 18, 1847, Major D. B. Douglass made a report to the Common Council on the drainage and gravitation of that part of Brooklyn which lies over and adjacent to the Gowanus canal. He proposed two methods: first, by excavating one or more basins near the head of the meadows (near the Inter-

the harbor; and the sections being pulled out the tanks depressed, they are able to bring it into a position where repairs are possible, and by separating the sections after it is lowered into the water, insure its liberty. For vessels of moderate size, the marine railway or the ordinary sectional dock is preferable; but for the largest vessels, the dry dock has the advantage, though it is very expensive. The only dry dock in this country which approaches in size to that of Messrs. Lamb & Sons, which we have already described, and to that of the Anglo-American Dry Dock Co., is the great graving dock of the Brooklyn Navy Yard, which, however, is only about two-thirds of the capacity of Camp's No. 2 Dock.

To Brooklyn, therefore, belongs the supremacy over all other cities on this continent, in this important adjunct of a great commerce.

The aggregate cost of these basins, canals, and warehouses of the South Brooklyn water front has been very great. Fourteen years ago it was estimated at more than four millions of dollars in the section below Hamilton avenue and Third avenue. Since that time the improvements in docks and warehouses which have been added have more than doubled that amount, while the warehouses, canals and docks between that avenue and Fulton ferry have cost not less than five millions more; and the more than a mile and a half square of land filled in from the grading and excavations of these last forty years, and now covered by vast manufactories, machine works, and many thousands of dwellings, has added to the first cost over ten millions at least, or twenty-five millions of cost for property which seventy-five millions could not now purchase.

But, though the South Brooklyn improvements have attained such magnitude, they constitute by no means all of the commercial facilities which the enterprise and energy of Brooklyn citizens have fashioned to attract hither the commerce of the world.

The United States Navy Yard.—The United States Navy Yard, while owned and controlled by the

section of Butler and Nevins streets, and connecting them with Gowanus Bay by a double canal. To prevent deposits, he proposed, in lieu of basins, to construct a double canal, with its two branches parallel, and each provided with two gates. The canal would have two branches, each with two gates, the two gates of each branch to have an influent gate, opening inward, and the other with an effluent gate, opening outwards. The flood tide would open the influent gate and close the effluent, and, in the progress of the flood, the whole canal would be filled with water. The tide turning to the ebb, the order of the gates would be reversed, the influent closing and the effluent opening, and the whole canal would be emptied. He proposed to have the canal 45 feet wide at bottom, 81 feet at surface of water, and 12 feet deep.

ana bay, finding, from observations of the tides in the two bays, that a sufficient current would pass through to keep the water fresh.

and maintain docks, &c., along Gowanus canal and land adjacent street, was built by this company. [Editor.]

Another improvement has been attempted and made some progress at Bushwick Inlet, but the extensive piers there, five or six in number, are all required by the sugar and petroleum interests.

Newtown Creek* and Canals.—The *Brooklyn* shore of Newtown Creek has also been made the subject of extensive improvements. Nearly the whole right bank, from the foot of Clay street to Mill street, in the Eighteenth Ward, a distance of two and three-fourth miles, has good and substantial wharves; and two canals, one known as the *Whale Creek Canal*, half a mile in length; the other above Maspeth avenue, and called the *Newtown Creek Canal*, a little more than a mile in length, to Randolph street, have been built. These furnish transportation facilities to the centre of the Eighteenth Ward, and are of great advantage to the increasing manufacturing interests of that rapidly growing Ward. Some day this canal, enlarged to the dimensions of a ship canal, will be extended through East New York to Canarsie bay, and a new water front of about seven miles length, and having wharfage to the extent of perhaps twenty-five miles, will increase and nearly double our present magnificent commercial facilities, and make Brooklyn, which will

Wallabout Basin and Canal.—An area of about seventy acres of unproductive salt marsh, adjoining the New York, has been transformed into an extensive and valuable basin, fronting on the East River. The basin has a depth of fifteen feet at low water (and including the Kent avenue basin, which is a part of it), three piers and seven lines of wharf or water front, aggregating 4,900 feet of wharfage, beside the Kent avenue, or Wallabout Canal, extending from Washington avenue to Hewes street, 1,300 feet farther, of the same depth and a hundred feet wide. This gives 2,600 feet more of wharfage, making, in all, 7,500 feet, or nearly one and a half miles of water front, which has been of the greatest possible value to the enterprising business men of that section. The marshy land which has been filled in from the excavations and draining required in this improvement, is now covered with large warehouses, factories, and dwellings, among which are the immense lumber yards of Cross, Austin & Co., said to be the largest retail lumber yards in the United States, and several others less extensive; several great iron foundries, and other manufactures of note, and many hundred dwellings; while the Appleton book factory, Gill & Baird's, and other stone works, the Royal Baking Powder Co., and the numerous factories on the streets adjacent, have here the best of facilities for shipping their products. This improvement has also

afforded a direct and better connection between the eastern and western districts of Brooklyn. Washington avenue, a fine thoroughfare of Brooklyn, beginning at the Eastern parkway, where it leaves Prospect Park, has been extended across these new made Wallabout lands, and united, at Broadway, E. D., with Franklin street, and forms an almost straight line from Myrtle avenue to Hunter's Point. From Myrtle avenue to Hunter's Point a street railway extends along the thoroughfare. By this route the distance between the two districts is shortened about three-fifths of a mile. Property all around this basin has been enhanced in value from ten to twenty fold.

* The NEWTOWN CREEK, from want of a flushing-tide through it, is, at present, a nuisance, and rapidly filling up. The open or underground canal through Wallabout avenue, from the head of the Wallabout canal, would, if cut into the creek near the rope-walks, across Bushwick avenue, entirely remove the stagnant waters, and carry off the sludge thrown off by the glue and petroleum factories on its banks.

The eminent Gov. DeWitt Clinton, who once lived on the shores of Newtown creek, at Maspeth, has placed on record the plans of three tide-water canals converging into Newtown creek. The first from the Wallabout to Bushwick; the second, from Maspeth dock, through Winfield valley, into Flushing creek; the third, from Dutch Kills, through Woodside and Train's meadows, into Flushing bay, at Jackson's mill, while the further idea of a connection with Sanswick creek, at Astoria, was entertained. Gov. Clinton, from his actual exploration over the large area above named, became satisfied that such a network of canals would, in future time, become a necessity for drainage, each through its own region, which could be converted into a useful boat navigation. But, above all, he was impressed with the value of the Wallabout canal, both from its construction, its shortness, and its capability of flushing the main channel of Newtown creek with a strong current of tide-water. He anticipated that gradual silting up of its bed, which is now apparent even to the point of obstruction, with the grave interrogatory attached that, "if such be the deposit of the last fifteen years' accumulation, what will be the result in the year 1900?"—a date not far off.

The late Mr. Wm. Cooper, years since, was impressed with the value of a tidal communication between the Wallabout and Bushwick, but, with other capitalists, was deterred from the scheme by the report of some engineer who opposed it, on the grounds of the inequality of the tide level between the two extreme points; a theory found to be incorrect with respect to the Suez Canal, although urged by the English engineers with much pertinacity until finally exploded by Lesseps and by an officer of the British navy, who ran a line of levels from the Mediterranean to the Red Sea.

Newtown creek possesses, by its own natural configuration, and that of the intervening space of low ground between it and Wallabout canal, the most favorable aspect for a tide-water canal. The grand design of preserving the creek by flooding out all impurities and deposits by a thorough passage of tide-water through the Wallabout canal, presents a strong claim from the absence of any difficulty to be encountered in its short route, easy levels, and soft material to be excavated.

It is worthy of note, in this connection, that a ship canal through Train's meadows was, at one time, considered the most feasible plan to escape the rocks of Hell Gate, by a passage from Flushing bay into Newtown creek. [EDITOR.]

then embrace the whole of Kings county, the *entrepot* of the largest commerce and port in the world.

The Government Inspection of Brooklyn Commerce.—While the National Government refuses to keep a separate account of that part of the commerce of the port of New York, or of the vessels which load and unload their cargoes at Brooklyn wharves and docks, it is not to be supposed that they neglect to inspect such cargoes, or to take note of the vessels which arrive or depart from these wharves and docks; although, on the Custom House books, the arrivals and clearances are all credited to the Port of New York only.*

As a matter of fact, the water front on the Brooklyn side is divided into nineteen inspection districts, each having its inspector and gaugers, weighers, foremen, clerks and workmen; and these inspectors are required to keep an account of all vessels discharging cargoes in their respective districts, and also a complete and faithful record of all the goods discharged. Every article of commerce must be examined, tested and weighed by the different inspectors and weighers appointed for that purpose, before it can be put in storage or allowed to leave the dock; and the results of the work of the inspectors are made known in reports daily to the Barge office, at the Battery, the headquarters of the Deputy Surveyors of the Port, and also to the Surveyor's office, in the Custom House, over which Col. Kibbe presides.

The busy season in the Brooklyn inspection districts is during the months of March and August, at which time the greatest number of cargoes of sugar, molasses and tobacco are received, and a large extra force of workmen are employed, and the river front presents its most busy phase. But the long line of water front is never devoid of business, or without active workingmen, on a week day. The most familiar articles of commerce to be found on the docks the year round are sugar, molasses, coffee, tobacco, hides, wool, cotton, hemp, grain, jute, sisal grass, bones, log and dye woods, coal, iron, brick, stone, lumber, oil, saltpetre, plumbago, guano, soda, chalk, lime, dry goods, porcelain and china ware, green and dried fruits, etc., so that it is doubtful whether there is an article known to commerce which may not be found at some time in the year packed away in the storehouses of the third city of the Union. There are eight or ten ocean steamship lines now making regular trips from Brooklyn piers to various foreign ports. These steamships also carry saloon and steerage passengers as well as cargoes, and formerly had their landing places on the New York side of the East River.

One of the conspicuous advantages which Brooklyn has over the great metropolis, as to commercial facili-

ties, is the fact of its warehouses being built up plumb to the water line and immediately adjacent to the wharves. The carrying of goods to and from the stores is thus made more convenient, and at a considerable saving to merchants, than on the other side, where the extra expense of carting across the street to the warehouse, and the annoying interruptions by the steady traffic along those thoroughfares are decided drawbacks. From the natural situation and configuration of Long Island, Brooklyn's opportunities for advancement as a commercial centre are almost infinite, and such as few cities in the world possess.

The water front is divided by the Government into nineteen inspection districts, which, together with the names of the inspectors for each district, are as follows:

First District—All south of Hamilton avenue bridge a distance of five miles. Considerable quantities of sugar, chalk, Spiegel iron and wire arrive here. C. F. Wager is the inspector.

Second District—From Hamilton avenue bridge to foot of Columbia street, including all the canal above the bridge. Vast quantities of lumber, brick, iron, lime, etc., are to be seen here. A. D. Bennett inspects them.

Third District—Columbia street to all between Marine Railway, near the foot of Conover street. The New York Warehousing Company, at Erie Basin, is within this district. Immense quantities of cotton, saltpetre, grain, soda and cement are received at this point. B. S. Steen and R. Britten supervise this section.

Fourth District—Marine Railway to foot of Walcott street, which includes the Merchants' Stores. This is the great salt district. P. Barquet looks after it.

Fifth District—Walcott street to Summit. Woodruff's Stores and some of the finest piers in this country are comprised within these limits. Rye, peas, malt and barley arrive here in large quantities from Canada. The inspectors are J. S. Young and G. Voges.

Sixth District—Summit street to Hamilton ferry. Several thousand canal boats are often laying up here at one time. In other respects it is a duplicate of the preceding district. E. Van Zandt and E. O'Shea have a vigilant eye to it.

Seventh District—Hamilton avenue to Baltic street, including the Baltic, Union and Bartlett & Co.'s Stores. A very busy locality. C. F. Kane and P. F. Hagan inspect it.

Eighth District—Baltic street to South ferry, comprising the Robinson's, Congress street and Columbia Stores. Dow's grain elevators are here, the largest, without exception, in the known world. Messrs. Peebles and Johnston look after it.

Ninth District—South ferry to Joralemon street. Woodruff's other stores are in this district, in which considerable sugar is handled. The inspector is W. R. Babson.

Tenth District—Joralemon street to Wall. Prentice's Stores. All sea-truck. William Stewart supervises it.

Eleventh District—Pierpont's Wall street Stores. A busy section. J. Forster diligently cares for it.

Twelfth District—Roberts', Harbeck's and Watson's Stores. One of the most important and busiest on the front. The Brazilian line of steamers landing at this place bring large quantities of coffee. It is essentially a coffee district. A. D. Douglas and A. Limburger actively superintend it.

Thirteenth District—Mott's Stores. In a more general and considerable quantity of sugar and coffee is discharged here. A. B. Catlin and H. Walch industriously superintend it.

* For many of these facts and statistics, we are indebted to a valuable and carefully prepared article in the *Brooklyn News* of October 27, 1883, entitled, "Brooklyn's Commercial Growth and Progress."

Seventeenth District—From the East River Ferry to the Navy Yard. The Emigrant Landing is situated in the second district. The district is the largest in the county. Mr. Van Nostrand is the inspector.

Eighteenth District—From the Navy Yard to Broadway, and from Broadway to North Fourth street. This includes the largest sugar refineries in the country. The inspector is W. H. Hodge.

Nineteenth District—From Broadway to North Fourth street. This includes the largest sugar refineries in the country. The inspector is W. H. Hodge.

Seventeenth District—North Fourth street to Bushwick creek. A great number of canal boats are always to be seen here. A. H. Palmer is the inspector.

Eighteenth District—Bushwick Creek to and all east of Newtown Creek Bridge. Great quantities of lumber, bricks and oil may be seen here. J. Conkling and R. H. Clark make their daily tours of inspection in a boat.

Nineteenth District—Hunter's Point, all west and north of Newtown Creek Bridge. This is essentially a lumber and oil district. The inspectors, H. T. Clock and R. H. Clark also enjoy a quiet sail in performing their respective duties as inspectors.

ARRIVALS OF VESSELS FOR 1880, '81 AND '82.

The following is a statement, by districts, of the number of arrivals along the river front for the years 1880, '81 and '82 respectively:

First	379	314	307
Second	494	293	371
Third	742	701	355
Fourth	206	117	319
Fifth	548	447	286
Sixth	1,030	487	530
Seventh	635	437	404
Eighth	1,114	837	227
Ninth	303	206	454
Tenth	419	379	391
Eleventh	262	237	252
Twelfth	397	306	292
Thirteenth	229	204	185
Fourteenth	367	346	310
Fifteenth	341	338	331
Sixteenth	268	309	214
Seventeenth	429	447	410
Eighteenth	414	822	554
Nineteenth	695	898	650
Total	9,272	8,125	7,042

It will be observed in these totals that there is a successive decrease. But this is not owing to any special disadvantages or drawbacks connected with the harbor facilities, but to other and irresponsible causes. This is shown from the appended statement of the sum total of arrivals in the port of New York for the same period.

1880.....7,819 | 1881.....6,929 | 1882.....6,476

1883. The district inspectors for the Brooklyn side of the river report the following as the number of arrivals in their respective districts for the year ending on October 1, 1883: First, 391; Second, 494; Third, 742; Fourth, 206; Fifth, 548; Sixth, 1,030; Seventh, 635; Eighth, 1,114; Ninth, 303; Tenth, 419; Eleventh, 262; Twelfth, 397; Thirteenth, 229; Fourteenth, 367; Fifteenth, 341; Sixteenth, 268; Seventeenth, 429; Eighteenth, 414; Nineteenth, 695. Total, 5,824.

The different classes of sailing vessels, such as steamships, packet ships, schooners, etc., are only included in the above figures, barges and canal boats being excluded. These latter would swell the figures by many thousands. Another prominent feature in this connection is that hundreds of sailing craft avail themselves yearly of Brooklyn's excellent harbor accommodations, especially in the Atlantic Dock and Erie Basin, after having received their cargoes at other points, and while awaiting fair weather, or from other causes, before leaving this port. Vessels coming in empty or in ballast, seeking cargoes, or awaiting orders from their owners, and which are not included in the figures just given, also take advantage of the city's commercial facilities. This is particularly true of the vessels intending to load with grain.

It would appear from the foregoing statistics that Brooklyn had a larger commerce than New York City, as she reports a larger number of vessels. This is true, so far as the number of vessels, the export trade, especially in grain and provisions, and the bulk or weight of goods imported is concerned.

As we have shown elsewhere, of all heavy goods imported, and of most of the exports, Brooklyn receives and ships from 66 to 76 per cent. of the whole amount which enters or leaves the port; but of dry goods, and other goods of comparatively small bulk, New York receives about 56 per cent., and Brooklyn about 44 per cent. These goods are mostly, and perhaps altogether, brought by steamships, and the increasing number of ocean steamship lines which are now landing at Brooklyn piers, will soon give our city the larger moiety of these goods also.

In addition to those mentioned in the preceding article, and its accompanying biographies, we may mention, among *shipping merchants*, WILLIAM D. CLYDE, F. M. LAWRENCE and AMBROSE SNOW; JOHN H. FORD and L. H. LEONARD, *Elevators*; WILLIAM H. LEAFCRAFT, *Port Warden*; JOHN A. NICHOLS, *Quarantine Commissioner*.

JAMES McMAHON, *Shipping and Transportation*, established in New York, 1861, during the war of the civil rebellion (in conjunction with his partner, James T. Easton) ran a fleet of 300 barges between New York and Baltimore, Md.

ABIEL ABBOTT LOW.—The city of New York, the great mercantile metropolis of these United States, is justly proud of that class of her population which has given her that distinction. No seaport or maritime city of any country can boast of better names on its mercantile roll than she. Merchant *princes* have they been called, and well they may; not for the princely wealth which many of them have accumulated, but from a far higher point of view; for the patient industry and far-seeing intelligence with which they entered upon and pursued their life-work; for their sterling principle and honesty in the conduct of their affairs; for their high aims in the struggle for success and wealth; for their estimate of wealth itself, sought and secured, not as a selfish end, but a means; not merely as a boon or a profession, but a sacred trust; and, consequently, for their generous and noble use of that wealth in behalf of religion, education and benevo-



H. S. Lane

lence; of advanced science; of the useful and the fine arts; of good government and the integrity and purity of the State, and the elevation of the whole people; in a word, of whatever bears upon and tends to increase the public welfare. For all these, have the merchants of New York furnished illustrious examples.

Among them all, none is more deserving of respectful and admiring notice than Abiel Abbott Low. He was born in Salem, Essex county, Massachusetts, on the 7th of February, 1811—the oldest son among twelve children of Seth and Mary P. Low. His early education was in the public schools of his native city, and there he began his mercantile life as clerk in the house of Joseph Howard & Co., largely engaged in the trade with South America.

In 1829, he left Salem, and followed his father to Brooklyn, remaining with him some three years. Having attained his majority, he sailed, in 1833, for Canton, China, and, on arriving there, became a clerk in the house of Russell & Co., the largest American house in that city, and of which an uncle, the late Wm. H. Low, was a partner. In 1837, he was taken into the firm; and, after three years successful pursuit of the tea trade abroad, returned home in 1840, to prosecute the same business here. Hardly thirty years of age, he set about it at once, and soon established himself in Fletcher street, New York, and there laid the foundations of that which was destined to become the leading house of America in the China trade.

The business of the house was of rapid growth, and at length assumed grand proportions, requiring a fleet for its work. Ship after ship of the finest and most beautiful model and careful construction, with a view to the highest speed under canvass, kept pace with its demands; and for years the house carried on its traffic between China and New York, without the loss of any of its ships, previous to the War of the Rebellion; in the progress of which, two—the *Jacob Bell* and the *Contest*—were captured by rebel cruisers, and burned at sea. In 1845, Mr. Low had removed to South street, and taken his brother, Josiah O. Low, into partnership; and, in 1850, he finally removed to 31 Burling slip, and took possession of the capacious warehouse and offices which he had built for the permanent home of the house. In 1852, his brother-in-law, Edward H. R. Lyman, was added to the firm, whose style thenceforth became "A. A. Low & Brothers," and so remains to this day. For, while the old partners have retired from active participation in the business, it has passed, in the natural order of things, into the hands of their children, and the oldest son of the subject of this sketch bears his father's initials.

Mr. Low's whole business career, while distinguished by great success, is equally so by the high estimate very early put upon his business talents by the most experienced of his cotemporaries in the China trade, and their yielding to him the foremost place. His in-

fluence in the New York Chamber of Commerce has always been wholesome and valuable, as well as large and conspicuous. He entered it in 1849, was elected its President in 1863, and, on the expiration of the stated term of three years, was re-elected in 1866. In 1867, however, he resigned the office for the purpose of a voyage round the world; and, soon after, left home with his family, and was absent over ten months.

In great crises—commercial, financial or political—in periods of panic or actual disaster, he has the courage of his convictions, and his opinions are eagerly sought and freely given. In the Civil War, on all important questions of national policy or duty, his voice and his action were alike ready and sagacious, clear, patriotic and determined. Holding no political or public office, from which he has resolutely kept himself, but outspoken and earnestly loyal to the Union, he was often at Washington during the war, on committees of the Chamber of Commerce, for consultation with the Government regarding matters of the highest import connected with the war or the great commercial interests of the nation.

In Brooklyn, the city of his adoption and residence, he is one of her most public-spirited and useful citizens. Ever since his return from China to the United States, Mr. Low has taken a lively and hearty interest in her welfare. As his means have increased, he has kept a constant eye upon her growth and prosperity; and wisely and generously contributed to the establishment and support of all institutions which tended to make that growth attractive and healthy, and that prosperity ennobling. Thoroughly imbued with the spirit of a firm and enlightened Christian faith, the Church has found in him a true, devoted, exemplary friend. Fully appreciating the value and importance of good education to every community, and especially essential in a Republic, the public and private schools of the city for both sexes are to him of highest concern. Of the Packer Collegiate Institute, that noble school for female education, munificently endowed by a cultivated and widowed lady of Brooklyn as a memorial to her late husband, whose name it bears, Mr. Low has been for many years, and still is, President of its Board of Trustees, giving to its affairs not only large and intelligent oversight, but liberally providing for its library and scientific apparatus. At its Commencements, in official addresses to the successive graduating classes, he has been accustomed to add to wise counsel, eloquently and touchingly expressed, a farewell gift to each member of an elegant copy of some standard literary work as a memento of personal regard. The Brooklyn Library, and the Long Island Historical Society, have found in him from the start one of their most appreciative, active and munificent patrons. The City Hospital, the Society for Improving the Condition of the Poor, the Union for Christian work, and many other benevolent institutions, are all indebted to him

and support of all well-designed and well-managed public institutions. In the great Civil War his high ability and patriotic sentiment found their truest test, and Brooklyn should prove herself second to no other city in the Union in the most pronounced and successful manner. His influence over the most energetic, liberal, and useful members of the "War Fund Committee" (see page 101) of the city and county, which was organized in 1862, and which admirably and efficiently seconded and helped the United States Sanitary Commission. He was President of the General Committee of Citizens which, in co-operation with that of the Woman's Relief Association, organized and carried out its grand result at the Brooklyn and Long Island Sanitary Fair of February, 1864. In the preparation for, and progress of the Fair, Mr. Low took an active and prominent part; presiding at and earnestly and eloquently addressing an immense and enthusiastic public meeting at the Brooklyn Academy of Music, as well as repeated meetings of the General Committee; and adding most generous contributions of personal attention and advice, of time and money.

It is wholly unnecessary to dilate upon the character of Mr. Low as a man and a citizen. High-minded, high-principled, and of broad, comprehensive, carefully formed views of commerce, of finance, of the legitimate functions of government itself, and its true aim and policy; as a citizen of a great republic, ready to meet and discharge to the best of his ability every duty of a citizen; as the Christian head of a Christian family, holding out to and before them as to make it sure that his memory and his example will be their richest treasure, and a constant motive and impulse to their own high endeavor, Mr. Low stands pre-eminent. Such a man, such a merchant, might, indeed, honor office, but office could not honor him. In his private walk he is the courteous and cultivated gentleman, of refined, cordial and unassuming manners. With a well-selected and ample library, and access to the newest and best books, he is a large and discriminating reader. His extended knowledge shows itself, without pretence or ambitious effort, in numerous speeches before the Chamber of Commerce, and other assemblies. At the banquet tendered him by the members of the Chamber, on the evening of the 1st of August, 1866, and the world in 1866-7, after giving a delightful *résumé* of his experiences on the coast of Africa, and his observations in the interior of the continent, he made a series of suggestions and reflections worthy the attention of the distinguished company before him, and of Congress and the Senate of the United States.

He was married on March 10, 1815, to Helen Abner, daughter of the late James Deay, of Brooklyn, by whom he had four children, two sons and two daughters, all of whom survive their mother, of blessed memory, who died after a short illness on the 25th of January, 1850. On the 25th of February, 1851,

he was again married to Mrs. Ann B., widow of his brother, the late Wm. H. Low, and daughter of the late Mott Bedell, of Brooklyn. Mr. Low's oldest son, Abiel Augustus, married the only daughter of S. Cabot Ward, a prominent merchant of New York City; his youngest daughter is the wife of Henry E. Pierrepont, Jr., of Brooklyn Heights; and his youngest son, Mayor of Brooklyn for a second term, married a daughter of the late Hon. Benj. R. Curtis, a distinguished lawyer of Boston, Mass., and Judge of the U. S. Supreme Court.

As an ornament to the city, the elegant and costly edifice which Mr. Low erected in 1882, and known as THE GARFIELD, on the corner of Court and Remsen streets, deserves mention as an illustration of his public spirit; admirably contrived for banking, insurance, law and other offices, and of the most thorough finish and construction within and without.

ALEXANDER ECTOR ORR is a member of a Protestant Irish family of Scottish extraction, claiming kindred with the clan MacGregor, who came to Ireland in the 16th century and settled in the north, acquiring real estate in the counties of Donegal, Londonderry and Tyrone. His ancestors were present, on the defensive side, at the siege of Londonderry, in 1688-9, then the most prominent city in the province of Ulster and the only one which successfully adhered to the standard of William the Third against his father-in-law, the dethroned James the Second of England, who, up to that period, had been successful in his operations in Ireland. His father, William Orr, was a gentleman of private fortune, residing at Strabane, in the County Tyrone, who died in 1834, three years after the birth of Alexander E. His mother, who was the daughter of David Moore, Esq., of Sheephill, in the county of Londonderry, soon after the death of her husband, removed from Strabane to Londonderry with her nine children, of whom Alexander was the seventh in order.

It was originally intended that a commission in the judicial or military departments of the East India Company's service should be his vocation in life, and a presentation to the company's college at Addiscombe was procured, where he was to go as soon as he had reached the adequate age; but a severe injury to his foot when a lad of between thirteen or fourteen disabled him for several years, and rendered the fulfillment of that design impracticable.

During convalescence from this accident, and when he was permitted to resume his studies, he went to reside in the family of the Rev. John Hayden, Archdeacon of the Diocese of Derry and Raphoe, at Killaloe Glebe, a short distance from the city of Londonderry, who superintended his education; and, as it was necessary that he should be as much as possible in the open air his lessons were generally recited on horseback when riding about the parish with his reverend preceptor.

When he was able to lay aside the crutches which he had used for nearly four years, and had gained comparative strength, he visited the United States, in the year 1850, for the expected benefits of the sea voyage out and home, in a sailing vessel, owned by a relative of the family. The outward voyage was a tedious one (between two and three months), but it produced the most beneficial results, and he landed in Wilmington, North Carolina, a strong and healthy-looking young man. During a short tour of a month (while the unloading and re-loading of the vessel was taking place), which he made northward, visiting Richmond, Washington, Baltimore and Philadelphia (but failing for lack of time to



Augustus
A. E. Orr

reach New York), he became so impressed with the magnificent future that was in store for the United States, that he returned to Ireland fully determined to make that country his future home, if the controlling authority (he being under age) would grant consent. At first, this was withheld; but subsequently a compromise was effected, the terms being that if young Orr continued of the same mind till the summer of the following year the objection would be withdrawn. There was no wavering on his part from the impressions previously formed; time had only served to confirm them; and, in the autumn of 1851, he came to the United States in the steamship City of Glasgow, arriving at Philadelphia, and immediately proceeded to New York. This vessel was soon after lost at sea and all on board perished; she was never heard of after leaving Philadelphia on a subsequent return voyage.

Among many letters of introduction which Mr. Orr brought to the United States, was one to the banking firm of J. & J. Stuart, and another to that of Abraham Bell & Son, of Park Row. The senior member of the former firm tried to dissuade him from remaining in the United States, as, in his opinion, success here was very uncertain and England, if it did not offer better opportunities, had fewer temptations for young men. Mr. Abraham Bell, a genial warm-hearted Quaker gentleman, on the other hand, urged him to remain in New York, took a deep interest in his welfare, and procured for him a situation in the office of his friend, Mr. Ralph Post, a shipping and commission merchant of South street. In later years, Mr. Orr has often referred to the kind and encouraging reception he received from Mr. Bell, whose warm friendship and advice influenced his career, in comparison to that accorded him by Mr. Stuart, who, although an Irishman, seemed to have little confidence in either the perseverance or staying powers of his more youthful countryman. It is a coincidence that may be mentioned in this connection, that many years afterwards Mr. Orr was elected to fill the vacancy in the Board of Trustees of a large foreign financial institution (having a branch office in New York), caused by the death of Mr. Stuart.

Another letter of introduction which he presented was to the Scotch firm of Ritchie, Bane & Co., who have long since passed away. At his request, and prior to obtaining the situation referred to from Mr. Post, Mr. Ritchie kindly permitted him to come to his office for a short period and assist in forwarding some work that had fallen behind hand, thereby enabling him to obtain a knowledge of United States currency and the modus operandi of an American merchant's counting-room. His instructor was the book-keeper of the establishment, who, after courteously initiating him into the mysteries of his profession, confided to him the secret that he was studying for the ministry of the Protestant Episcopal Church. At the end of ten days, the tuition terminated, but twenty-two years afterwards Mr. Orr united with his colleagues in the vestry of Christ Church, Brooklyn, in extending a call to a reverend gentleman, as assistant minister of that parish (to have the special supervision of its most important mission), who proved to be none other than his American preceptor; each having, in the intervening years, entirely lost sight of the other.

In 1856, the firm of Wallace & Wickes, whose office was then in Front street, tendered Mr. Orr the position of cashier and confidential clerk, which was accepted with the greatest pleasure on his part, where he remained for nearly two years. For the members of this firm he entertained the warmest friendship and only severed the relationship, with their consent and advice, to accept a similar position in the office of David Dows & Co., in the summer of 1858, where a wider field was presented to him.

On May 1st, 1861, Mr. Orr became a partner in this firm, and has been actively concerned in its management ever since. The formation of the firm of David Dows & Co., was John Dows, of Charleston, South Carolina, New York, and it dates back to 1850, when the commerce of the United States was in its infancy and its products could only be transported in large volumes from the harbor of the South, and over seas via the Mississippi and Hudson Rivers, steamships or railroads being then unknown. John Dows died in 1856, and the business was continued by David Dows and John C. Cary, his surviving partners, under the firm name of Dows & Cary.

In 1854 Mr. Cary died, and David Dows continued with himself his nephew, John D. Mather, and in the name of David Dows & Co., the business was continued without interruption. This firm continues its operations as a commission business in the major farm products of the United States. Grain, flour and provisions are the principal factors, while cotton, wool, tobacco, and many other commodities are also shipped to its care.

The breaking out of the rebellion gave an immense impetus to the volume of its transactions, and as the war progressed, this not only increased, but the Commissary Department of the United States Government found it advantageous and profitable to procure its services in purchasing a large part of the subsistence stores needed for the armies east of the Alleghany Mountains, up to the end of the war. As Mr. Orr had direct supervision of the financial and provision departments of the firm, and was continually consulted by the Commissary General, reference to the following letter from General Eaton, the head of that Department of the Armies of the United States, may not be out of place:

OFFICE OF
ASST COM-GENERAL OF SUBSISTENCE,
NEW YORK, Sept. 27th, 1864.

MESSRS. DAVID DOWS & CO.:

Gentlemen—With much pleasure I send you the following extract from a letter, yesterday received from General Eaton, Commissary-General of Subsistence, U. S. Army:

OFFICE OF THE COMMISSARY GENERAL OF SUBSISTENCE,
WASHINGTON, D. C., Sept. 20th, 1864.

COL. H. F. CLARKE, A. D. C. & A. G. S. NEW YORK.

Sir—Your letter of yesterday, requesting that the purchase of provisions, made under contract with the firm of David Dows & Co., be received, has been forwarded to the proper authorities. The mercantile skill and ability of the firm, and the promptness with which they have discharged the interests of the country, have been the cause of the success of Messrs. David Dows & Co. for this service.

Very respectfully, your obedient servant,

Signed

I am, gentlemen, very respectfully, your obedient servant.

H. F. CLARKE.

CHIEF OF BUREAU.

The transaction here referred to covered several millions of dollars in value. It not only embraced the purchase of provisions, but also the negotiation of government certificates of indebtedness (with which in large measure the Treasury Department of the United States was, from necessity, forced to pay its debts), upon a plan suggested by Mr. Orr, and which proved much more favorable to the Government than that which was practiced prior to David Dows & Co's management. It was in some respects a new plan, which worked so well that it was continuously followed till the close of the war.

The policy and spirit of David Dows & Co. has always been to encourage the agricultural and commercial development of the United States; and, as a means, it has always been identified with those enterprises which assisted in opening up and utilizing the resources of new territories, and has ever been among the first to follow the government, railroad

the city of New York, or its great dormitory, Brooklyn, where, on the water front of the latter, it has built some of the finest wharves and piers on the Atlantic seaboard. It has done much to make the harbor of New York the granary for the old world, and the city of New York the great grain center of the United States. In all these matters Mr. Orr has actively seconded the indomitable energy and enterprise of his senior partner, Mr. Dows, and has ever found in him a friend from whom he could accept counsel, and whose example it was his aim to emulate. Hence we find him asserting, when opportunity offers, the commercial supremacy of New York, and advocating and supporting every influence that will tend to insure that end. Year after year, since 1871, he appeared before committees of the Legislature, urging the reduction of tolls on the state canals; until in 1882, as chairman of the New York Produce Exchange Committee of Fifty, he presented the unanswerable argument of the Exchange in favor of "free canals," and made the demand "that every toll bar erected against the internal commerce of the state, and the interests of the cities of New York and Brooklyn, must now be taken down."

In 1875 Mr. Orr was appointed by Governor Tilden a member of the commission charged with the duty of investigating the affairs and management of the canals of this state. His colleagues were John Bigelow, Daniel Magone, Jr., and John D. Van Buren. This commission faithfully fulfilled the mission entrusted to its care. It was organized in April, and did not terminate its labors till the spring of the following year. Through it a system of frauds was discovered and developed, which had been in operation for many years, and was sapping the moral condition of the governing bodies of the state.

Very many of the guilty persons were brought to justice, and made to refund their ill-gotten gains. Prominent state officials, who had either connived at, or profited by, these wrong-doings, were forced to resign, in order to avoid judicial removal; and others who could not be proved legally guilty, but whom the moral sense of the community deemed responsible, withdrew into private life as soon as their terms of office expired, and in a political sense, were heard of no more.

This commission was clothed with extraordinary powers. It was authorized to send for persons and papers, and arrest all refractory witnesses. Its expenses were of necessity large; some \$35,000; and yet it may be said to have paid more than its own expenditures, as it collected from persons wrongfully and fraudulently receiving, and returned to the state, either in cash or state certificates of indebtedness, \$43,000; collected proofs which enabled the state to sue for hundreds of thousands of dollars, which had been wrongfully or fraudulently paid to dishonest contractors, and caused contracts to be cancelled, and useless constructions to be stopped, which would have involved the useless expenditure of millions of dollars more. As a result, the recommendations of the commission were adopted by the Legislature: the pernicious elective offices of canal commissioners were abolished, divided responsibility was entirely eliminated from canal management; the office of superintendent of public works, with a direct responsibility, was created, and the expense of canal maintenance was reduced more than one-half.

Mr. Orr has been identified with the New York Produce Exchange since 1859. He was one of those active, earnest men who, after many defeats, succeeded in establishing in 1871-2 the organization that now prevails, and which since then has grown into such grand proportions, and promises

such splendid results. His constant aim has been to make the Exchange self-appreciative and self-asserting, and claim to be what it has the right to be, the great central commercial association of the United States. To insure this, it needed a building worthy of that aim and claim, and in 1879 it was finally decided to erect one at a cost not exceeding one million and a half of dollars.

A building committee was created, consisting of eight gentlemen, with full power as to location and character of construction within prescribed limits, of which Mr. Orr was one, and he was at once elected its secretary. The committee immediately took the position that the sum named was much too small, and after many meetings and controversies with the board of managers and members of the Exchange, procured its increase to three millions of dollars, which, in the opinion of the committee, was more appropriate for the purpose. The wisdom of this action is now apparent. A building, creditable to the Exchange and the city of New York, is now being completed, which combines architectural effect with all present and prospective Exchange needs; and which will yield at the same time a yearly revenue, to be expended in the interests of American commerce for all time, of nearly two hundred thousand dollars. To the courage and earnest advocacy of Mr. Orr, in large measure, is due these praiseworthy results.

Other Exchange interest, only second to that mentioned above, has received his careful attention. In all large commercial bodies differences of opinion and misunderstandings must, of necessity, be frequent. To settle such by recourse to legal tribunals is expensive and tedious, and owing to the admissibility of technicalities when so adjudicated, very often the equities of the case are entirely lost sight of. Mr. Orr has always advocated settlement of such differences by arbitration, and has devoted much time to the development of this system of mercantile justice. For the past three years he has been the chairman of the arbitration committee of exchange, and so successful has that committee been in obtaining the confidence of the members, that in its late reports to the board of managers, the following statements are found:

"It is the experience of this committee that settlement of differences between members of this Exchange by arbitration, without intervention of law, is rapidly becoming the general rule. Indeed, the prediction is ventured that, following the lead of intelligent business men, and guided by the influences which they cannot fail to exert, the large corporations and associations throughout the land that are dependent upon commerce, either directly or indirectly, for patronage and support, will ultimately adopt the same system for adjusting controversies and solving problems that are now the foundations of tedious and expensive law suits. * * * In this association of three thousand merchants, the committee has not learned of a single instance during the past two years where the law has been called upon to adjudicate between members."

In matters of finance, Mr. Orr's opinions are much respected and his services sought. He is vice-president of the *Mechanics' National Bank of New York*, and was tendered the office of president after the resignation of Benj. B. Sherman, in 1883, but declined it because of more pressing obligations. He is also a director of the *New York Produce Exchange Bank*, and a director and member of the finance committees of the *Continental* and *American Fire Insurance* companies, and of several other kindred institutions; also a director of the Chesapeake and Ohio Railway Company.

On his arrival in the United States, in 1851, Mr. Orr came to reside in Brooklyn, and has continued to dwell there ever since. He thoroughly believes that that city will ultimately become the first in population, in manufactures, and in solid,



Carrison S. Vierning

home-like comforts, if the people will take advantage of opportunities as they are presented, and are appreciative of the possibilities of the future, which, in almost all things American, may be made to far surpass the expectations of the most sanguine. In his opinion, from its advantageous location and other favorable conditions, Brooklyn cannot be held back from continuous growth and prominence; but with moderate taxation, ample water supply, a thorough system of rapid transit, and a continuation of such upright municipal government as has been enjoyed since the beginning of 1882, together with its close identification with the financial and commercial interests of New York, it could be wonderfully helped forward; and, if it does not in all respects rank first, it will only be second to the great metropolis, to which it will always add lustre, and of which it really forms a part. For these reasons, he has always lent a willing and helpful hand to found, sustain, or direct those institutions of a philanthropic, educational, or refining character, which are so essential to the healthful development of all large cities. He is a trustee of the *Children's Aid Society*, the *Eye and Ear Hospital*, *St. John's Hospital*, the *Packer Collegiate Institute*, the *Brooklyn City Mission and Tract Society*, the *Long Island Historical Society*, the *Art Association*, the *Brooklyn Library* and the *South Brooklyn Savings Institution*, in which latter, with its twenty-one thousand depositors, owning over nine million dollars of deposits, he takes the deepest interest. He holds that the savings banks furnish the means of teaching, in the most direct and practical manner, the science of political economy to the masses of the people. He believes that every one who is prospectively dependent upon his or her exertions should be encouraged to avail themselves of this means of making future provision against "the rainy day;" and he makes it a condition with those whom he employs, that they shall have an active savings bank account; holding that the best evidence one person can give another of intended faithful service, is that evidence of self-appreciation, that first duty which looks beyond the needs of to-day, and makes provision for the unknown wants of to-morrow.

In politics, Mr. Orr may be termed an independent, although all through the War he had very decided republican affiliations. He advocates absolute freedom of action, irrespective of party domination, in the great national questions of the day, believing that a man's conscience is his best guide; and he is strongly opposed to the introduction of national politics into systems of municipal governments. Although he is not a "protectionist," as that term is generally understood, he is equally opposed to "free trade" in the United States, his views being that there should be a tariff that will produce the needed revenue, and insure, at the same time, the fair remuneration and elevation of American labor. He also holds that raw material and foreign built ships, except when the latter are to be used in the coasting trade of the United States, should be placed on the free list.

He has never held political office, except once, when he was elected a member of the Electoral College that cast the Presidential vote of the State of New York for Hon. Samuel J. Tilden in 1876. Although of republican affinities, Mr. Orr was elected to fill a vacancy in this college, because of his known friendship and confidence in the democratic candidate, believing that if he should be inaugurated, as he believed he had been elected, Mr. Tilden would carry with him to Washington the same system of reform that he had introduced into Albany, when he was the honored and respected Governor of this State, in 1875-6.

In 1882, Mr. Orr was tendered the nomination of Comptroller of the city of Brooklyn by both the Republican and

Democratic parties, and the final nomination was given to the Comptrollership of the city of New York, by the Hon. Hon. Franklin E. Benson, both of which nominations were declined because of his many business engagements.

Mr. Orr is a member of the *Protestant Episcopal Church*, and one of the corporation of the *Episcopal Diocese of Long Island*, which Mrs. A. T. Stewart presented to the diocese of Long Island. He is also a member of the *Episcopal Synod of the diocese*, and a trustee of several of the diocesan institutions. In 1836, he married Juliet Berkley, then daughter of Ammi Dows, Esq. (then senior member of the firm of Dows, Guiteau & Co., of New York), who died in 1872. He subsequently married Margaret Shippen, daughter of the late Nicholas Luquer, Esq., of Brooklyn, a granddaughter of the late Dominick Lynch, Esq., of New York, and a great great granddaughter of Chief Justice Edward Shippen, of Pennsylvania. He has three daughters, Jane Dows, Mary Moore and Juliet Ector.

In person, Mr. Orr stands about six feet in height, but is rather slight in build for a man of that stature. In his manner he is active and quick, and his constitution is nervous and vigorous. He is now fifty-two years of age, but time has not laid its hand heavily upon him. He attributes this in great measure to a principle laid down early in life, and which, under all circumstances, he faithfully follows out, viz., that when he leaves his office he also leaves his business there, and never allows its cares and anxieties to invade the happiness of his home. He believes that the toils should be largely intermingled with the pleasures of life, and has ever regretted that the American merchant and professional man differs so much in this respect from the habits of life almost universally observed in the older countries of Great Britain and Europe. It is indeed a very true adage that "all work and no play makes Jack a dull boy," and, it may also be added, a prematurely old man—a condition which could easily be avoided by all our business men, if Mr. Orr's principle was not the exception but the general rule.

HARRISON S. VINING—a resident of Brooklyn for the last thirty years, and widely known in New York as an authority in maritime affairs, and as the organizer and head of the "H. S. Vining's Bureau of Inspection" for grain-loading vessels; also, Marine Surveyor and Appraiser, was born in Lisbon, Mo., Nov. 4, 1824.

His early childhood was passed in "S. W. Bend," a village of Durham, in that State, so called from a sharp turn in the Androscoggin River, at that picturesque portion of the town. When he was nine years old, his parents removed to Portland, Me., in which city and the Seminary in the suburbs, he received his education, and from which port he sailed for many years. He went to sea, in his thirteenth year, with his father, who was captain of the vessel in which he sailed. From that time, for three years, he made winter voyages only, spending the intervening summers at Westbrook Academy, and at a private school in the city, for the higher mathematics.

The only books which he took with him to sea, to beguile his leisure hours, were McCulloch's Commercial Dictionary, and works upon Navigation and Astronomy; thus early prepared himself for a career in a difficult and exact science. At school he studied bookkeeping, surveying, etc.

The whole science of Navigation he mastered perfectly, when very young, by self-study. He commenced teaching at the age of twenty-one. During his early career, he was successful in his various undertakings, and in the manner in which he took

and by his quickness to foresee and avert threatened danger and disaster. His judgment of

In 1853, Mr. Vining settled in Brooklyn, retiring from the sea, after seventeen years' experience of its dangers and vicissitudes. In his early voyages he acquired the Spanish language and various dialects, in foreign ports, which proved of great service to him in transacting mercantile business with people of many nationalities, during the sixteen years in which he was engaged in the shipping and commission business in New York; and later, in the great enterprise which has made him known, not only in the metropolis and the principal ports of the United States, but in Great Britain and the Continent. We refer to his connection with the grain trade, in which he has achieved a wide popularity. In 1872, he organized the "H. S. Vining's Bureau of Inspection" for the grain trade with Europe, which has systematized and greatly facilitated business for the ship, the merchant and the underwriter in this vast commercial interest. Up to the present time, this Bureau has inspected and given certificates to over twelve thousand vessels of all classes. It is the largest institution of the kind in the world.

The facilities of this Bureau for promptness and dispatch are remarkable. In 1880, the number of vessels, including steamships and sailing vessels, that came under this inspection was 2,125; 316 vessels of all kinds receiving certificates in a single month during that year.

An important feature of this organization is the establishment of a perfect system, regulating lay-days, and the draft of water to which the ship should load, thereby saving disputes and litigation.

In all cases of arbitration in this country and in Europe, Mr. Vining's opinion has always been sustained.

In 1875, he received the written approval of fifty-four insurance companies on the Continent, from Russia to the Mediterranean.

In the Grain Act of the British Parliament for 1880, "H. S. Vining's Bureau of Inspection" was incorporated.

The Nautical Gazette, published in New York, in its issue of September 13, 1879, has the following: "When it is considered that Mr. Vining's inspection is the growth of individual ability and integrity, and has at times to combat with large and wealthy corporations, it will be seen that it is managed with the most thorough intelligence and rectitude, and has thus commanded the confidence and secured the patronage of the largest grain shippers in America, as well as many underwriting companies."

Mr. Vining has written a work, which is soon to be published, entitled, "The Nautical Handbook," containing a complete dictionary of nautical words and phrases, alphabetically arranged, together with a large amount of information in regard to ship-building, dimensions of spars, stowage, etc., and a table of comparison for finding the capacity of ships for various cargoes.

In 1852, Mr. Vining joined the Masonic body in the "Ancient Landmark Lodge," of Portland, Me., of which Lodge he is now a life member. In Brooklyn, he took the higher degrees, and was Eminent Commander of the Clinton Commandery for two years, devoting to it a lively, energetic interest. Of the second year in which he held this office, the following record appears in the published proceedings of the Grand Commandery, New York, 1882: "During this year, the meetings were regularly attended, and more work done than in all the previous existence of the body." This covered a period of thirty-seven years, from the time of its organization. Mr. Vining has also taken all of the "Ancient and Accepted Rite" degrees, to the 33d and last degree, and

is an honorary member of the Supreme Council for the Northern Jurisdiction of the United States of America, being, for 1882, the thirteenth on the list of living members, in the order of admittance.

Mr. Vining's activity in business is unabated. Thoroughness, steadiness of purpose, and breadth of aim, still characterize all his undertakings, in a notable degree. Genial and versatile, he finds many ways to be helpful to others, and has many friends among all classes. Eminently useful in his day and generation, may "his days be long in the land."

RICHARD HARPER LAIMBEER was born June 22d, 1825, and has lived most of his life in New York and Brooklyn, having removed to the Sixth Ward of the last mentioned city from New York in 1849, and since resided there. His parents were William and Thomazine (Harper) Laimbeer.

William Laimbeer, who died at the age of sixty-nine, December 13, 1861, was one of the most enterprising business men of his time, and it may be of interest to the reader of the history of Brooklyn to know that he was one of the number who, in order to secure better communication between Brooklyn and New York, signed a bond to indemnify the Ferry Company against possible loss, as an inducement to run a ferry boat from Whitehall street, New York, to Hamilton avenue, Brooklyn. He was one of the pioneers in business at the Atlantic Dock, and built the first stores on the North Pier there, and subsequently others, which, with other improvements, constituted a valuable property. About 1853 he retired from active business, and passed the remainder of his days on his farm at Amsterdam, Montgomery county, N. Y.

In 1845, Mr. R. H. Laimbeer engaged in the storage business, occupying the block of property and privileges then belonging to his father, at the foot of Congress and Warren streets. In 1848, he removed to the Atlantic Dock, and from that time until 1863, carried on his business on the North Pier.

In 1863, he removed to Clinton wharf, where, until 1868, he was the active manager of the business of the firm of R. H. Laimbeer & Co., consisting of R. H. Laimbeer, A. E. Masters and L. B. Shaw. In 1872, *The Grain Warehouse Company* was organized, and assumed control of the stores, formerly of R. H. Laimbeer & Co., L. B. Shaw and A. E. Masters, and David Dows & Co.'s Columbia stores, at the foot of Pacific street. Of this company, A. E. Masters was president, and Mr. Laimbeer was treasurer. Two years later, *The Grain Warehousing Company* was organized, with L. B. Shaw as president, and R. H. Laimbeer as treasurer. All of its warehouses and elevators are located on the Atlantic Dock, and its New York office is at No. 5 Moore street. It is probable that this company has to-day the largest capacity for, and is doing a more extensive business than any other single warehousing firm in the world; and it is due in no small degree to the wise forethought and admirable management of Mr. Laimbeer that it has assumed its present status.

The connection of Mr. Laimbeer with other prominent enterprises is well known. He has been, since its organization, a member of the *New York Produce Exchange*, and was formerly a member of its board of managers. He is vice-president and director of the *New York Produce Exchange Bank*, and trustee of the *South Brooklyn Savings Bank*. For some years past he has been identified with mining enterprises, and he is a director in the *Standard Mining Company of California*, and some other similar corporations.

May 21st, 1848, Mr. Laimbeer married Kate J. Radcliffe, daughter of John and Susan Radcliffe, of Port Jackson, Mont-



W. S. ...

gomery county, N. Y. They have a son and two daughters. The son, Richard H. Laimbeer, Jr., is a lawyer, with his office at 132 Nassau street, New York.

Mr. Laimbeer, from his youth up, has taken a deep interest in religious matters, and early in life became a professor of religion. At the age of eighteen, he was a trustee with his father in the Hammond Street Presbyterian Church of New York, and at the same time occupied the position of its treasurer. After taking up his residence in Brooklyn, he was for many years identified with the South Presbyterian Church, at the corner of Amity and Clinton streets, and he was one of sixty of its members who withdrew to constitute and organize the Westminster Presbyterian Church, at the corner of First place and Clinton street. To the establishment and success of Westminster Church, Mr. Laimbeer has been a generous contributor, as well as a faithful worker, and his official connection with it has continued from the first. To all of its interests, he stands in the relation of a willing and liberal helper, and it is not saying too much to state that he is, and has been, one of the strong pillars of the organization which have been necessary to its upholding. Upon all its means of grace he is a faithful attendant.

Politically, Mr. Laimbeer is an ardent Republican, but he has long since withdrawn from active participation in political affairs; the demands of his business interests, and the quieter claims of church and home, requiring his whole time and devotion. He is, and has long been, a great employer of labor, and is in every sense the friend of the workingman. His life has been, and is still, a very busy one; and if he has prospered beyond many of his acquaintances, it is conceded that his prosperity is only the legitimate reward of enterprise and earnest and honest endeavor. He is such a citizen as Brooklyn may well be proud of, and one of a number whose improvements along the Brooklyn water front have contributed not a little toward bringing to the Brooklyn shore much of the business of the port of New York, and which will remain as valuable adjuncts to the city's development long after the men who have made them shall have passed away.

GENERAL FRANCIS E. PINTO.—The oldest brick house in New Haven, Conn., is the old Pinto house, which was erected in the year 1745, of bricks imported from England. In that house, in the year 1755, was born William Pinto, of Spanish descent, who became the father of General Francis E. Pinto. At the early age of thirteen, William Pinto entered Yale College, and at his death was referred to as having been the oldest graduate of that institution. At the time of the invasion of New Haven by the British, during the Revolution, he was one of a number of students at Yale who armed themselves, as well as time and circumstances would permit, to assist in the defense of the town. Two of his brothers, also, were numbered in this party. One of them was made a prisoner by the British; the other was wounded and carried to a place of safety by William Pinto, who took him up before him on a horse upon which he was mounted. Later, William Pinto was a member of the garrison of the fort at New London, Conn., and owed the salvation of his life to the fact that on the very morning of the massacre of his comrades by the British, he had been sent with despatches under orders from Colonel Ledyard. After the Revolution he became one of the first New Haven traders with the West Indies, and in time assumed considerable importance as a vessel owner. During the war of 1812-14—the day before the historical engagement from the *Constitution* and *Guerriere*—while returning from the island of Trinidad with one of his vessels laden

With neither the money nor the time to keep up both business and politics, Mr. Pinto left the Government. About thirty of the Americans were killed in March 30, 1862, and he was ordered to leave the United States for exchanging for French prisoners of war held there. The American army did not use up its strength in vain, however, for the French General would not let the prisoners go away without giving them the papers with which to leave the Government's jurisdiction in America, and upon the reaching home the number of men was nearly equal to the number of the sick and the wounded, including 6000, so that the English government was obliged to give provisions to them. It was found by the English naval authorities that the French ships carried considerable quantities of arms, but that considerably smaller quantities of small degree to the troops exposed to the blockade. After many years of mercantile life, Mr. Pinto retired from business, and resided in New Haven until he died in 1866, returning a son to New Orleans.

Descended from a nation of warriors noted for conquest and exploration, the sons of Adirondack have taken part in the wars in which this country was founded. It was from among that General Francis E. Pinto inherited a liking for military adventures, which he has happily qualified himself to pursue. He enabled him to render service to his country in two later struggles; service which has won for him the recognition of his superiors, and placed him, at this time, among those veterans whose names are known and honored by the people of the American people. Born in New Haven, June 30th, 1823, he gained the rudiments of an education in the common schools of that town, and a useful and successful business in a dry goods store in New York. He passed most of the time intervening until 1846 in the employment of different New York dry goods merchants, rising to positions of considerable importance; ill health once compelling him to spend between two and three years on a farm in Connecticut and the summer of 1844 in the then extremely wild and picturesque Adirondack region.

At the outbreak of the Mexican war, in 1846, Mr. Pinto volunteered in his country's service, and on the 6th of June, that year, was commissioned as second lieutenant. He participated in the capture of Vera Cruz, the storming of Cerro Gordo, the taking of Pueblo, the battle of Contreras, the assault upon Chapultepec, and the taking of the city of Mexico, besides taking a worthy part in minor engagements. As interesting incidents of his experience during this period, it may be stated that, after General Sweeney was wounded at Chertusco, Lieutenant Pinto supported his form while the operation of amputating the General's arm was being performed; and that he saw and conversed with the recently deceased Captain Mayne Reid upon his being brought into the castle, after having been wounded outside the walls of Chapultepec. Before and during the capture of the city of Mexico, Lieutenant Pinto rendered some brilliant service, which can only fully be appreciated by those who were present following the successful termination of the campaign. At the storming of Chapultepec, the next day, he placed the first scaling ladder in a ditch against the wall of the Castle. A second ladder was passed over and he caught the end on the point of his saber, holding it up until the flag was hoisted on the tower. Then, assisting the color sergeant of his regiment, they ascended the ladder together with the red flag presented by the army of the West.

and the dangerous task, and, for his faithful performance of the work, he was honored with the rank of lieutenant.

Lieutenant Pinto was a member of the first military Court of Commission, which met in the Mexican capital, after its capitulation, and took an active part in its deliberations. He was promoted to a first lieutenancy and breveted captain, at the close of the war, and mustered out of service with his regiment, in July, 1848, after a little more than two years' service.

Returning to private life, Mr. Pinto decided to go to California, then holding out golden promise to those who were venturesome and self-reliant enough to seek its shores; and, on Christmas day, 1848, he embarked at New York on board the steamer *Isthmus*, owned by George Law, for California. Passing safely through dangers by fire and storm, and after having the *Isthmus* reached Havana with its supply of coal about exhausted. On account of a report that she had cholera aboard, it was only with the utmost difficulty that the steamer was enabled to secure a little fuel of most inferior quality; but, putting in at Port Royal, this deficiency was supplied. The crossing of the *Isthmus* of Panama was effected, and then Mr. Pinto and his companions embarked for San Francisco on the *California*, the first steamer that made the voyage up the Pacific coast. She put in at Acapulco, and the natives fled from the town, under the impression that she was a piratical craft. At Monterey the discovery was made that the vessel was without coal. A landing was effected on the timbered coast, and the able-bodied passengers formed themselves into a body of industrious woodchoppers. After much arduous labor had been performed in this cause, a large number of sacks, which had been erroneously thought to contain some kind of merchandise, were found to be filled with coal; and after this unnecessary, though not an altogether unpleasant delay, the *California* steamed into San Francisco Bay on the 28th of February, 1849, twenty-seven days out from Panama, and a little more than two months after Mr. Pinto's departure from New York. San Francisco then consisted of but a few adobe houses, but the spirit of progress had already taken root there, and it was the point of supply to a goodly number of overlanders who were working in the gold-fields beyond. The arrival of the *California* was an important event. Bonfires were lighted in honor of the vessel and her passengers and the latter were welcomed to the hospitalities of the town.

The destination of every Californian emigrant was "to the diggings," and Mr. Pinto at once joined a party of five or six of his fellow-voyagers and went, *via* Stockton, to the Southern mines. The party combined mining with trading, and soon opened a store of which they were joint owners, and of which, after some little experience in the mines, Mr. Pinto was placed in charge. This business was closed out in the spring of 1850, and Mr. Pinto returned to San Francisco, where he met an old New York acquaintance, named Martin Waterman, who, in company with Rodolph Jordan, was the proprietor of a general mercantile business, in which the two induced Mr. Pinto to become a partner, and the firm became Waterman, Jordan & Co. The same gentlemen, under the style of Pinto, Jordan & Co., opened a store in Stockton two weeks later. Both houses were very successful, and in the winter of 1851, Mr. Pinto went to San Francisco to attend to their interests there. In May, 1851, in the fire which destroyed most of the important portions of San Francisco, their stores there were swept away, and the conflagration which ruined Stockton three days later burned their other establishment at that place. Up to that time, it had not been

possible to effect any insurance on property in California, and had it not been for the precaution the firm had taken to build warehouses on the outskirts of Stockton, in which considerable merchandise was stored, and the presence in San Francisco bay of a cargo of sugar which they owned, they would have been utterly without recourse; but, thus aided, they were enabled to rebuild and continue business at both San Francisco and Stockton. In December, 1851, Mr. Pinto came to New York, and, on the 6th of the following January, he married Miss Jessie Laimbeer, to whom he had been betrothed prior to his departure for California in 1848. Returning to California with his bride in the following March, Mr. Pinto dissolved partnership with Messrs. Waterman and Jordan, and, becoming a partner with James Baxter, Ira P. Rankin and Henry Tay, of Boston, opened a mercantile house in San Francisco and another in Stockton. About a year afterward this alliance was terminated by dissolution, and a new firm was formed by Francis E. Pinto, Henry Tay and Wilson G. Flint, who continued the same business at the same places, but so unsuccessfully that a separation of the partners soon took place, and the firm of Pinto, Tay & Flint was succeeded by that of Pinto & Waterman, his old partner joining him in the enterprise. In the meantime, Mrs. Pinto had returned to New York with her daughter, and she remained east until rejoined by her husband. The enterprise of Messrs. Pinto & Waterman was successful, and they soon entered so largely into the grain trade that, during the year 1855, they handled more grain than any other house in San Francisco. In the spring of 1856 the firm of Pinto & Waterman terminated its existence, and Mr. Pinto began to settle up all his California business, with a view to returning to New York, but still with the idea that he might possibly again make his home in San Francisco.

At this time occurred an episode in the life of Mr. Pinto which at once evidenced his soldierly and daring spirit, and his readiness to serve the public, even at the risk of life itself. Causes which have become historical, and any satisfactory reference to which is manifestly out of place in this brief sketch, rendered necessary the organization of what was known as the Vigilance Committee of California. It was formed early in 1856, and was, in reality, the first formal and well organized body for the protection of life and property in the Golden State, and was officially designated as the "Military Department, Committee of Vigilance." The civil law was ineffectual to secure citizens in the rights of life and property, and, without any design other than the advancement of the public good, the Vigilance Committee, by the action of the civil authorities, was brought into antagonism with the courts, and thus occupied a dangerous position, menaced on the one hand by the lawless class so numerous there at that time, and on the other by the civil government, which in every manner impeded its action and crippled its efficiency. Of this body Mr. Pinto became a member, and was placed in command of a company of 100 men. He was soon afterward made major of a battalion, and later a colonel of a regiment of this semi-military, semi-secret organization, of which he became Deputy Grand Marshal. When Colonel Pinto announced his intention of leaving California, and tendered his resignation of these offices, he received a flattering response from Charles Doane, Grand Marshal and Commander-in-chief of the forces of the Committee of Vigilance, from which the following extract is made.

"* * * You will permit me to say that I deeply regret that any circumstances should render such a step on your part necessary, and to add that it affords me much gratification to bear testimony to the energy, the zeal, and the ability which has characterized your every effort in behalf of the good cause in which we are all engaged."



James C. Smith

About this time, Colonel Pinto was tendered the office of Sheriff of San Francisco, but refused to accept the charge, though this evidence of the confidence of many leading citizens must have been very gratifying. He returned to New York, rejoining his family in July, 1856, and lived in partial retirement from business till the outbreak of the Rebellion in 1861. When asked by an old friend if he intended to go into the war, he replied, "I can't keep out of it." The intelligence that Fort Sumter had fallen into traitorous hands aroused old memories of the scenes of war; and he at once met several kindred spirits, mostly old Californian acquaintances, among them, Ira P. Rankin, who had been appointed collector of the port of San Francisco, the postmaster of San Francisco, the Superintendent of the Mint there, and Col. Edward D. Baker, who was killed early in the war at Ball's Bluff, and the formation of a regiment to represent California was proposed, discussed, and determined upon. It was agreed that Colonel Baker should command this regiment, and that Colonel Pinto should be its Lieutenant-Colonel. Mr. Roderick Mattheson was also interested in the proposed organization. Dissensions soon arose, which resulted in the formation of the regiment, with Mr. Mattheson as Colonel and Mr. Pinto as Lieut.-Colonel. It was known as the 32d N. Y. V. I., and its field officers and several others of subordinate rank were all men who had been identified with the wonderfully early development of California. It went into camp at New Dorp, Staten Island, early in May, and left for Washington in June, via Harrisburg and Baltimore, being one of the first regiments to pass through the latter city after the disgraceful mob attack there on the Massachusetts Sixth.

At the first battle of Bull Run, the 32d was in reserve on Centreville Heights, and was engaged until midnight in barricading the roads leading to Bull Run Creek with rails and other obstructions. They were greatly surprised to learn that the Unionists had been defeated and were fleeing toward Washington. Upon reaching the road to Alexandria the regiment met the wreck of the Federal commissary and ammunition wagons. The 32d was, doubtless, the last regiment to leave that fatal field. Going into camp at Fairfax Court-House until daylight, it continued the retreat to Alexandria the following morning, every man accounted for, conveying all of its disabled men in an ambulance which was found tongueless by the wayside, and propelled by willing hands by means of a rope attached to it, and which Gen. Franklin said should thenceforward belong to the regiment. At West Point, Va., where, May 7th, 1862, the Unionists, under Franklin and Sedgwick, defeated a considerable force of Confederates under Whiting, the 32d took a prominent part, losing two captains killed and several lieutenants and a number of men killed and wounded, and was complimented for its bravery in a speech by General Newton. The regiment was more or less actively engaged in the seven days' fight on the Peninsula, at Gaines' Mills, at White Oak Swamp, at Malvern Hill, and at the second battle of Bull Run. While lying at Harrison's Landing, Lieutenant-Colonel Pinto had been detailed to command the 31st New York, and was in the discharge of that duty at the time of the last great battle named, protecting the Orange and Alexandria Railroad from Alexandria to Fairfax Court-House. Early in the morning, it was found that the enemy had burned a bridge near there. Soon afterward, Colonel Pinto discovered the telegraph operator hidden in the woods, where he had fled from his post, and telegraphed General Slocum that his force was too weak to extend his lines any further and properly protect the road. About noon, General Shaler's old regiment came to reinforce him, and the following night the regiment withdrew to Alexandria.

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Not long after this, Colonel Pinto declined a commission as Colonel of the 31st, in order to accept the colonelcy of his old regiment, the 32d. This regiment, with Colonel Pinto in command, participated in the battle of Fredericksburg the following December, crossing the Rappahannock at the lower crossing and advancing in a dense fog, deployed as skirmishers, till the enemy were found in the hills. At the second crossing of the Rappahannock, and the engagement which ensued on the almost impregnable slopes beyond Fredericksburg, where Sedgwick's grand division, consisting of the Sixth Corps and a division of the Twentieth, so valiantly drove the Confederates, the 32d was conspicuously covering the rear of Lee (then fighting Joe Hooker at Chancellorsville), the 32d was the first to cross the river, crossed at night in boats and surprised the enemy's pickets and participated with great credit in the engagement at Salem Heights which immediately followed. On the 8th of the following month, the regiment, which had enlisted for two years, was mustered out of service. In a general order issued from the headquarters of the Sixth Army Corps, May 10, 1863, the 32d was commended for its "most creditable organization :

Colonel Pinto was brevetted Brigadier-General as a further reward for his services were held by his superiors in command. He retired to private life, and, in October, 1863, entered into business at the Atlantic Docks, Brooklyn, in the general storage business. He is a Republican in politics, a member of the Holy Trinity Episcopal Church of Brooklyn, and a liberal supporter of religious and general charities. As a business man he ranks high, carrying on extensive operations in his line, and is a member of the New York Produce Exchange. He will long have a place in the memory of the loyal citizens of Brooklyn as one of those Brooklynites who aided in upholding the starry flag in two memorable wars, and it may be of interest to future generations to know that he was chosen as a member of the staff of the Grand Marshal on the occasion of the centennial celebration, in 1883, of the evacuation of New York by the British.

JAMES WILLIAM ELWELL, a prominent shipping merchant of New York City, was born in Bath, Maine, August 27, 1820, and is a son of the late John Elwell and Mary Sprague, his wife. Mr. Elwell may be said to have inherited his marked business ability and numerous virtues from a long line of sturdy New England ancestors. Paternally he is descended from the Elwells who landed at Boston in 1636, and moved to the neighborhood of Gloucester, Mass., whence they have scattered to different parts of the country, notably to Maine, Broome county, New York, and Southern New Jersey. The parent stem is still vigorous in Massachusetts and Maine, and there is a branch in Pennsylvania, to which Judge Elwell of the Supreme Court of that state belongs. On his mother's side he comes of even more ancient stock, the Spragues dating from 1628, in which year the ancestors of the family landed at Plymouth, Mass., and settled in the neighborhood of Duxbury and Marshfield, in the same state, whence their progeny subsequently scattered to Rhode Island, Maine, and other parts of the country. Mr. Elwell's great-grandfather, Payn Elwell, born in Gloucester, Mass., April 8, 1744, was a worthy citizen of that town, and at the age of twenty years married Rebecca Webber, by whom he had issue nine children, five of them boys. Payn Elwell survived his wife a little over five years, and died March 20, 1820. His second son, Payn Elwell, Jr., born in New Gloucester, Maine, August 7, 1767, and grandfather of the subject of this sketch, began life as a clerk in his father's store, in North Yarmouth, Maine, and at the age of twenty-two was admitted to partnership. April 16, 1789, he married a Miss Lucy Staples, of North Yarmouth, who bore him a son, John, and a daughter, Rebecca, who became the wife of the Rev. David M. Mitchell, of Waldoboro, Maine. In 1807 he removed to Waldoboro, Maine, and established himself independently in business. He was the founder of the Congregational church in that place, and throughout life one of its most worthy and active members, as well as principal supporters, and held the office of deacon from 1808 until his death, August 21, 1840. John Elwell, his son, born in North Yarmouth, Maine, May 17, 1790, received a good common school education, and then entered his father's store as clerk, carefully saving his earnings and making judicious investments, and, with some assistance from his father, he was enabled to engage in business on his own account, which he did in Bath, Maine, in 1815, and, April 22, 1816, married the daughter of Captain Joseph Sprague, of Topsham, Maine. His business, originally confined to general merchandise, gradually broadened, until it caused him to become interested in shipping, and largely engaged in fitting and equipping

vessels employed in the fisheries, and in shipping their products as well as lumber to the West Indies, bartering the outward for return cargoes of salt, sugar, molasses, coffee, and other West India commodities. In 1831, desiring a larger field and greater facilities for his enterprise, he came to New York with a view of establishing himself permanently in the shipping and commission business, judiciously leaving his family behind him until he had gained a secure footing. Owing to the prevalence of Asiatic cholera in the city in 1832 he did not bring his family hither until a year later, at which time he secured a suitable residence in the village of Brooklyn, Long Island.

James W. Elwell, the subject of this sketch, and son of the foregoing, was put to school in his native place at the tender age of three years, and when nine years old entered the Bath High School or Academy. In these days of exhaustive education, it may surprise the reader to learn that the charges for tuition at this latter institution, \$4 a quarter, were considered quite high; and that, in consequence, the young pupil was duly impressed with the necessity for applying himself diligently to his studies. In 1833, when the family removed to New York, James was in his thirteenth year. The sailing vessel that transferred the family and its household effects to Brooklyn was fourteen days in making the voyage thither from Bath. The wonderful changes in Brooklyn since Mr. Elwell became a resident therein may be inferred from the following particulars regarding the place at the time of his arrival. The house into which the family moved was situated between Fulton and Henry streets, in Pierrepont street, which was then the last street opened south of Fulton ferry, and there were very few houses south of it. On the east side of Fulton street, Johnson street was the last street opened. Nearly opposite the Elwells' house were the Pierrepont cornfields, and where the Court-house now stands a Frenchman named Dufflon kept a public house, with which he had connected a garden, known as "Military Garden." This house was the first stopping place for travelers leaving the settled part of the village. The site of the present City Hall was a pasture, surrounded by a post and rail fence. In the rear of the Elwells' house in Pierrepont street was Love lane, in which was the residence of Hon. George Hall, president of the village. At this time there were only three watchmen in Brooklyn, and no ferry south of Fulton street had then been established.

In 1833 the elder Elwell formed a partnership with James B. Taylor, under the style of Elwell & Taylor, at 84 Coffee House Slip, New York City; and in the same year his son James entered the house as junior clerk, a part of his duty being to open the office at six o'clock in the morning, a task at which he was punctual and reliable. In the fall of the year he obtained a situation with James R. Gibson, then a dealer in special produce, including lard, cheese, barley, oatmeal, lime juice and palm oil, at 143 Front street. By the terms of the agreement young Elwell was to receive no salary the first year, and but \$50 the second, as was then the custom; but he impressed his worthy employer so favorably that, at the expiration of six months, Mr. Gibson handed him a check for \$25, saying, "James, your salary will be \$50 the first year. Nor was this all; for when the year expired no account was taken of this payment, nor of presents equaling \$50 in value, and a check of \$50 was paid as the year's salary.

This liberal treatment was continued while he remained in Mr. Gibson's employment; and, while it reflected the highest honor upon the kindness of heart of the employer, it was none the less richly deserved by the boy, who proved worthy of every confidence. The duties of the latter obliged him to



Wm. H. Burwell

rise before daybreak, and after breakfast, by candle-light, to hasten through the village streets, dimly lighted by oil-lamp, few and far between, to Fulton Ferry, where he crossed the river on the old "double boats" then in use, reaching New York as early risers were giving signs of awakening. At the age of fifteen he was in full charge of his employer's business. In those days the salaries of clerks were small in comparison with those now paid, and scarcely half the number of clerks now deemed necessary were employed. Copying presses were not generally in use, and duplicate letters, invoices, and accounts were consequently copied by hand. The offices and stores were generally kept open evenings, when the letters were written and the business of the day entered and posted in the books. Association, even in a subordinate position, with a man of Mr. Gibson's kindly nature and high regard for principle, could not but leave its legitimate impression upon a pure-minded youth, and doubtless this association had a great deal to do with the formation of young Elwell's character. In the spring of 1838 Mr. Gibson retired from active business, and soon after James, then a youth of eighteen, was taken into partnership with his father, the style of the firm being John Elwell & Co., and its place of business 57 South street.

Together, John and James W. Elwell, established lines of sailing vessels for the ports of Savannah, Charleston, Mobile, and New Orleans, and, receiving consignments of vessels and merchandise, extended their business of freighting to the West Indies, South America, Europe and the East Indies. The firm of John Elwell & Co. continued until August, 1847, when it was dissolved by the death of the senior partner, Mr. Elwell's father. After carrying on the business in his own name for five years, Mr. Elwell associated with him his brother, Charles Frederick Elwell, until then a clerk in his employ, and also his bookkeeper, Thomas Besant, the firm opening in January, 1852, as James W. Elwell & Co. In 1854, Mr. Besant retired, and since then the business has been carried on by the two brothers, who still remain in the premises, No. 57 South street, which have been occupied by the Elwells, father and son, for nearly half a century.

In July, 1844, Mr. Elwell married Miss Olivia P. Robinson, daughter of Benjamin Robinson, of Bath, Me., who died February, 1851. Three children were the issue of this marriage. In May, 1852, he was again married to Lucy E. K. Stinson, of Bath, Me., daughter of David Stinson. One son, who died in infancy, and two daughters, Lucy S. and Jane Reed, both living, were the issue of this marriage. Mr. Elwell's mother died in Brooklyn, September, 1857. His youngest sister, Frances, married the Hon. Henry A. Moore, County Judge of Kings County, New York, an office he is now holding for the fourth term. Mr. Elwell's career in life has been no less active than exemplary, and he has been honored by his brother merchants with a very large number of responsible positions and trusts in mercantile corporations and associations. He became connected with the old Merchants' Exchange, in 1838, and is still an active member of its successor, the *New York Produce Exchange*, and one of its Arbitration Committee—a court of equity with the powers of the Supreme Court of the State. On this important committee he has served five consecutive terms. He was elected a member of the *Chamber of Commerce* in 1855, and has served on several of its important committees, among them that on Foreign Commerce and Revenue Laws, of which he has been chairman upwards of ten years. He is one of the oldest, and, it need scarcely be said, most esteemed members of this representative body of merchants. He was one of the original incorporators of the *Ship Owners' Association*.

of the latter. The latter is the primary organization and direction of a large number of traveling men who are often employed in the construction of the railroad.

Sober, thrifty, and industrious, and in the habit of giving his close attention to his business, Mr. Smith has been the recipient of much of the public interest and approval of his fellow-citizens, and is a devoted worker of religion and benevolence. For more than twenty years he has been a trustee of the *Brooklyn Union*, and has been one of the founders, and for some time past has been a trustee of the *Brooklyn Freed Society*, of New York, and of the *Mount Pleasant Society*, of the City of Brooklyn, and president of the Board of Trustees of the *German Reformed Church*. He was a trustee in the *New York Free School* for years, and for many of the *Hopkins Hospital*, of which he has ever since been president. He also founded, with several others, the *Home for Friendless Women and Children*, in Brooklyn. In the progress and advancement of the *Brooklyn Orphan Asylum* he has shown a personal interest, and is a member of its Advisory Board of Managers. Of the *Trunk and Truss* one of the most useful charities of the city, which had for its object the taking of poor, delicate, and sickly women and children on short excursions to the country, and giving to them health and strength, he was, for a long time, president, and has always been a liberal contributor. He is also a life member and a member of the *Brooklyn Aid Society*, and of the other leading public charitable and benevolent societies in New York and Brooklyn, including the *Mariners' Family Asylum*, Staten Island, and an officer in several others. He is also a trustee of the *Children's Aid Society*, and the *Brooklyn Dispensary*, and on the Advisory Board of *Mount Pleasant Hospital*, of South Brooklyn, and of the *Home for Insane Females*.

Space does not permit a more copious citation of the various charitable works with which he has been actively and responsibly connected ; for a volume would be required to give anything like a full account of the good work he has inaugurated, organized and furthered. From his purse, which is as open as his heart, the various churches, missions, Sabbath-schools, asylums, hospitals, dispensaries and homes, have, for many years, received substantial aid. In Brooklyn alone, he has contributed to the erection and support of more than fifty churches, mission enterprises, and charitable institutions ; and, from the reports of the different societies, it is estimated that his private acts of benevolence which are well known, it appears that he has expended more than half a million of dollars.

that party until the Republican party was formed, at which time he has not allied himself with either party, but has voted independently; and has chosen the best men, in his judgment, to fill the offices, whether they were nominated; and, in local matters, he has, at times, refrained from voting for either party, not knowing them personally, and not being able to judge of their qualifications. During our late session, he voted for the Republican party.

In 1861, at Brooklyn, N. Y., during the war, he was present at the opening of a department of it called the New England Hospital, which proved a great success financially. He remained there for more than two weeks.

Mr. Elwell was brought up and baptized in the Congregational Church of his birth. In each denomination his parents were members, but when the family removed to Brooklyn, N. Y., they left the latter of that denomination there, his parents united with the First Presbyterian church, then located in Cranberry street, and there they remained attendants until their decease. In 1854, Mr. Elwell connected himself with the Clinton Avenue Congregational Church Society, the late Rev. W. I. Buddington, D.D., pastor, but did not become a member until January 3, 1864, and at this church he still worships. He has, for nearly thirty years, seated the strangers who attended service, and welcomed all who came to the House of God to worship. During the same period he has been on the pew committee, attending to their rental. One rule has been carried out by the trustees of that church, which is, that no member of the church, who was unable to pay his rent, should be obliged to vacate his pew or sitting, but should be permitted to retain it until able to pay. He has seen a large number of men, women and children, who came to worship, gone, he trusts, to worship in the Temple of God, in Heaven.

Three of the characteristics of this philanthropic citizen and upright business man reveal at once the manliness, purity and simplicity of his nature; these are, his respect for the aged, his love for children, and his passion for flowers. Of unpretending manners, yet dignified appearance, he impresses one above all with the kindness and charity of his heart; and even in commercial affairs, he allows the freest and most Christian latitude to his generous impulses, and seems a living refutation of the oft repeated but sordid maxim that there is no friendship in business.

DANIEL AMBROSE, M. D.

This gentleman was born November 14, 1843, in the county of Limerick, Ireland; and, on the paternal side, belongs to a family in which the healing art seems to be hereditary, no less than ten of his family name and kinship being, during the past fifty years, in the medical profession, among whom is his brother, Dr. J. K. Ambrose, Coroner (1883) of Richmond county, N. Y. His father, Stephen Ambrose, died when he was about three years of age. Stephen was the son of John Ambrose, who, was a man noted for his upright character. He died some fifteen years ago at a very advanced age. He was the owner in fee of his native place at Dunganville. On the maternal side, Dr. Ambrose is descended from a family who were, for centuries, Chieftains of Ormond. They suffered during the various wars and confiscations of the country, and were finally entirely dispossessed of their patrimony by Cromwell, the fanatical zeal of whose followers caused them to frequently discard the usages of civilized warfare in their treatment of those whom the fortunes of war placed at their mercy. The tragic fate of the last who held out with the confederated forces against the Cromwellian invaders, is thus told by Morison, a contemporary historian and eye witness, whose work "The Thronodia," was published at Inspruck in 1659.

"The illustrious Colonel John O'Kennedy, a man of the utmost integrity, was slain by the swords of the enemy after their faith had been pledged to him in battle. His head was then cut off and fastened on a spike in the town of Nenagh, A. D. 1651.

"James O'Kennedy, son of the aforesaid illustrious gentleman, a youth of great hopes, being deluded with

similar pledges of good faith, was executed also at Nenagh, A. D. 1651."

A young son with two other children escaped from the general massacre, settled and prospered in the neighboring county, and from him James O'Kennedy, or Kennedy, as some spelled the name, the maternal grandfather of Dr. Ambrose, was fourth in descent. He died in 1819, and was buried in the cemetery of Anhid with many generations of his kindred; among others his father, and uncle Mark Kennedy. Among the children of the latter was a son of the same name, Lieutenant in the 66th Infantry, who died young, and a daughter who married Mr. John White, of Ennis. Their only child surviving at their death, was a young lady of rare virtues, who, dying at an early age at the commencement of this century, left upwards of £30,000 to works of charity and benevolence. In LENIHAN'S *History of Limerick* are extended particulars of the benevolence of various members of the family, including an account of Miss White's endowment of the College of Park, near the city; and of her conversion of a former theatre into the Church of St. Augustine, which she presented to the Fathers of that Order, and which, located on George street, has since been their house of worship. There is a very handsome monument erected to her memory in the family burying-ground above mentioned. The father of James O'Kennedy married one of the McMahons of Court, who also suffered severely in the Penal days. His grandfather married a member of the Cantillon family, then, and still, large landed proprietors in the county. Another member of this family, a daughter of Robert Cantillon, married Maurice O'Connell, of Derrynane Abbey, whose younger brother was the father of Daniel O'Connell, styled the "Liberator."

Daniel Ambrose, the subject of this sketch received a preparatory education at the best classical schools in Ireland, and, in his seventeenth year, took up the study of medicine in the medical schools and hospitals of Dublin. In 1864 he received the diploma of a licentiate of the Royal College of Surgeons in Ireland, and in 1865 was made a Doctor in Medicine of the Queen's University, and received the diploma of licentiate of the King and Queen's College of Physicians in Ireland. Before the close of the last mentioned year, he came to the United States, and located in Brooklyn, where he has since resided, during the last fifteen years, at his present residence, No. 97 Second Place. His success in his profession was rapid, and he soon obtained a large and lucrative practice. In 1866, he joined the Kings County Medical Society, of which he is still a member. He was connected with St. Mary's Hospital, Brooklyn, at its inception, and in 1875 was appointed by the Commissioners of Charities of Kings county, physician to their Department. The *Brooklyn Press*, of June 29, 1873, speaking of him, says:

"Dr. Ambrose is building up a splendid practice in Brooklyn. His thorough European education and experience, emphatic though brief, because the Doctor is still a young man, has its proper weight, and it is safe to affirm that no physician in this city has finer prospects, and none has deserved them more."

In 1867, Dr. Ambrose married Miss Anna Parker, only child of James Parker, at whose death, which occurred when she was but one year old, she became the ward of the Lord Chancellor of Ireland, and so continued until she attained her majority; her mother being a daughter of John O'Connell, of a very old and respectable family. James Parker was the son of Richard, whose father in the olden times was a very prosperous merchant and owner of vessels plying on the river Shannon. The mother of James Parker was Anna, daughter of Thomas Jacques, who was descended from a Huguenot family, which emigrated from France in the seventeenth century, and settled in Ireland. Thomas



Samuel Phelps

saw extensive service in the British navy, and fought with Nelson in all the naval battles of the Mediterranean and the Nile, and was engaged in the famous naval fight at Trafalgar in 1805, in which the great admiral lost his life. He was the son of Luke, the son of Isaac Jacques, who was mayor of the city of Limerick over one hundred years ago, and whose monument still exists in St. John's Protestant Church in that city, of which church he and his family were members.

While at the zenith of success, in 1879, Dr. Ambrose was obliged to suspend the active practice of his profession on account of his suffering from catarrh, with which so many persons are afflicted along the Atlantic seaboard, and especially physicians, owing to their frequent exposure in all kinds of weather. Being of an active temperament, he could not remain idle, and he associated himself with his cousin, Mr. John W. Ambrose, of New York, whose firm of Mills & Ambrose had just then completed the contract for the construction of the Second Avenue Elevated Railroad in the city of New York.

John W. Ambrose is a gentleman of rare energy, ability and executive qualities, and his indomitable perseverance, together with the magnitude of his works, have placed him in the foremost ranks of the contractors of this country, his operations having necessitated the employment of 6,000 men at one time. Together they purchased, in December, 1879, the large tract of water front between Twenty-sixth and Twenty-eighth streets, Brooklyn, and from the vicinity of Third avenue to the channel line of Gowanus bay, containing about twenty-seven acres. They immediately commenced operations, in which they were joined about six months subsequently by Mr. Robert J. Mills, of New York city. The general plan or scheme of these gentlemen embraced the establishment of dry docks, piers, a series of warehouses, and, indeed, such other improvements as the enterprise would from time to time develop. They built large and powerful steam dredges and scows of the largest capacity, for the purpose of dredging, so as to make deep water, and carrying the excavated material to sea, for which object they had steam tugs of great towing capacity. April 23d, 1882, the *Brooklyn Eagle* devoted much space to a review of this enterprise, saying, among other things:

“ In short, it was the practical rescue by capital of what had hitherto been only a vast expanse of water and swamp, and its subordination to the spirit of progress. Since that time one-half of the property, including that part between Twenty-sixth and Twenty-seventh streets, or a little over two hundred lots, by making deep water, sinking cribs and building land behind them, has been improved. There is sufficient water to allow vessels to come in and out, and the cribs have been sunk to a distance or depth sufficient to float the largest vessels that come to this port, thus anticipating by a year or two the dredging of the channel by the United States Government. * * * * *

by a year or two the dredging of the channel by the States Government. * * * * * Continuing the march of improvement the company built from the bulk-head line to the external or pier line, a distance of about 700 feet, two pile piers, between which were placed two immense sectional dry docks. These docks are capable of lifting the heaviest ships, and have all the appliances known to modern ship-building. Since their construction they have been in constant use. The advantages accruing from the situation of the docks are: their central location, abundant space, immunity from the depredations of river thieves, freedom from the commercial annoyances of low tides, and their constant employment of large numbers of men who have come from New York and other cities to reside permanently in Brooklyn, and thus contribute to the bone and the sinew of its working community. From trustworthy sources it is estimated that, owing to the influx of population by reason of this great commercial improvement of the city, over half a million dollars is distributed annually, while small houses in the vicinity of the ship yards are in the greatest demand by the families of mechanics who have

[illegible]

The water has been analyzed and found to be free from any substances deleterious either for drinking purposes or for boiler use, and it is worthy of note in this connection that the system so successfully introduced by Dr. A. J. Swannell at his associates was, not long afterward, adopted by the Brooklyn and Manhattan water supply companies, and is now being mentioned in popular literature.

"On the piers and slips running aw water and inviting, as it were, the mercha shores to come into a safe and commodious harbor, and full village of stone houses, and many fine buildings. Probably the most attractive object of the harbor is the large and elegant office occupied as the headquarters of the North River, which is built on pile foundations, and is substantial in construction as possible. In imitation of the great iron bridge, it marks a happy combination of commerce and architecture. The balcony of the second story a bird's-eye view of the river, the busy scene below and the superbly landscaped, while a perfect forest of masts and funnels rises into the sky, emblematical in its upward tendency of the commercial future. Along the 4,000 feet of river front can be seen the winter quarters of numerous yacht boats and steamers. Only a short distance further up the river a number of vessels used in the North River trade are moored at the Old Dominion line of steamers, which have collected here for the purpose of turning for repairing to be done. Over the river front the Iron Steamboat Company has a pier of some years about 700 feet of the dock, which is used as a depot for its boats in winter, as a summer, owing to the inadequacy of the pier at New York for that purpose, as a coal pier, and in water for the boilers from the already described. The superintendent

thus bringing to this city, in fact, at tributed, owing to the employment to representatives of many families. The seven great boats of the line, named after the great captains of the city, are now being built by Rufus Hatch, of New York, and Thomas. The boats are supposed to frequent the water eye of the visitor by the grace of the portions. Looking in another dredging machines busily at work up huge buckets full of mud which will enable the largest boats to avail themselves of Brooklyn's commerce bay is being dredged to a depth of 24 feet. J. W. Ambrose & Company. It will cost about \$150,000 when the intention is to erect warehouses brought to this post, and the magnificent look forward to a day

piers, thus making the neighborhood a

gentlemen as Messrs. Radcliffe Baldwin, the New York agent of the State Line of Steamers; John Williams, president of the Fulton Bank, of Brooklyn; H. P. De Graaf, president of the Bowery National Bank, of New York; John W. Hunter, ex-Mayor, and James Weir, Jr., president of the Board of Aldermen, of Brooklyn; David S. Arnott; Richard Poillon, the eminent ship builder of New York, and many other prominent capitalists of Brooklyn and New York. On the organization of the company, Dr. Ambrose was elected one of its directors, and such was the confidence reposed in him by his associates that he was chosen to be the treasurer and executive officer of the corporation. This great interest has been a complete success, and will identify the name of Dr. Ambrose with Brooklyn as long as the city shall exist. From present appearances it may be regarded as the precursor of a more gigantic enterprise of the same character, which promises to dwarf, at no far distant day, the water front improvements of Brooklyn existing at this time, the large body of land lying immediately south of the property of this corporation, which has heretofore laid dormant and absolutely unproductive, having recently been purchased by New York capitalists, some of whom have had their attention called to the possibilities contingent upon the development of the property referred to by the success of the improvements of Dr. Ambrose and his associates.

Politically, Dr. Ambrose has long been allied to the democratic party, and on all questions of national importance has thought and voted with that organization; but in municipal affairs his politics may be summed up in the statement that he has the best interests of the city at heart, and conscientiously supports such men and measures as he believes promise most on behalf of the public good. The demands of his profession and of his business interests have been so great upon his time and energies that he has never had an opportunity to drift into political life; and, even had such an opportunity presented itself, his inclinations would not have allowed him to become involved therein. Of pronounced literary tastes, he has devoted much attention to historical and general reading, and traveled much, both in the United States and throughout Europe. As a gentleman of education and a wide range of information, socially, professionally, and in business circles, he takes rank among the best of the Brooklynites of this day and generation.

CHARLES DENNIS.—Charles Dennis was born in New London, Conn., January 26th, 1821, the seventh child of Henry and Sarah Dennis. His ancestors on the paternal side were Henry Dennis, his father, who was born in Norwich, Conn., October 9th, 1786, and married Sarah Briggs June 21st, 1807; Samuel Dennis, his grandfather, who was born in Norwich, Conn., May 4th, 1756, and married Eunice Gallup, October 6th, 1783; Benjamin Dennis, his great-grandfather, who was born in Norwich, Conn., in 1722, and married Thankful Bliss, November 11th, 1746; Ebenezer Dennis, his great-great-grandfather, who was born in New London, Conn., October 23d, 1682, and married Deborah Ely, of Lynn, Conn., for his second wife; and George Dennis, his great-great-great-grandfather, who married Elizabeth, relict of Joshua Raymond, and who removed from Long Island to New London, Conn., in 1600.

Following is a statement of Mr. Dennis's ancestry on the maternal side: Sarah Briggs, his mother, was born in New London, Conn., April 19th, 1790; Frances Smith, his grandmother, was born in New London, Conn., July 21st,

1765, and was married February 14th, 1782, to William Briggs, who was born in Dighton, Mass., December 22d, 1757; and Marcy Bill, his great-grandmother, who was born in New London, Conn., in 1724, and married May 11th, 1746, to Dayton Smith, also a native of New London, who was born in 1725.

Mr. Dennis was educated in the best schools of his native State; and, in November, 1838, came to New York and entered the employment of Charles H. Russell & Co., importers of British dry goods, as a junior clerk. Here he remained until the autumn of 1839, when, not liking the business, he accepted a position with the house of E. D. Hurlbut & Co., shipping merchants, with whom he remained until the summer of 1842. He was then appointed captain's clerk by Captain S. H. Stringham, then about to take the command of the United States razeed *Independence*, the flagship of Commodore Charles Stewart, commanding the home squadron. Mr. Dennis made one cruise in this vessel, over the north and south Atlantic Oceans, the Caribbean Sea and Gulf of Mexico. Captain Stringham was detached from the command of the *Independence* in the Summer of 1843, and was ordered to the command of the Navy Yard at Brooklyn. He took Mr. Dennis with him, and appointed him to the clerkship of the commandant of the yard. Mr. Dennis remained in that service until February, 1846, when he resigned his appointment to take a confidential position in the house of Goodhue & Co., which he retained until January, 1850. Then he was appointed to the pursership of the steamship *Baltic*, of the Collins line of steamers, which vessel was being at the time fitted for sea; but, before she was ready to take her place in the line, at the request of Messrs. Walter R. Jones, President, and Josiah L. Hale, Vice-President of the Atlantic Mutual Insurance Company, in February, 1850, he resigned this position to become a clerk in the office of the corporation named.

In this clerkship Mr. Dennis started with a number of clerks in more advanced position, and a lesson to the young men of this day can with profit be drawn from his conduct. He did not rest content with merely doing the work falling to his position, but he voluntarily assisted others of his fellow clerks who were often overburdened with their tasks, thus making him popular with them and rendering him familiar with their duties, and informing him of the details of other departments of the business than the one to which he was assigned. He contributed greatly to relieve the pressure on the President, Walter R. Jones, which was then peculiarly burdensome from his failing health, by marking on many of the applications the rates of premium made familiar to him by the routine work of his own duties. This was deeply appreciated by the President, and as soon as opportunity came, from the resignation of one officer and the promotion of another, the good President took care that he received his reward by causing him to be elected third Vice-President of the company.

The same spirit of willingness to work, and, in fact, an anxiety to do all that he possibly could, quite irrespective of demand upon him, was continued, and promotion followed as a matter of course, so that in February, 1855, he was elected Second Vice-President, and one year later (February, 1856) First Vice-President.

It might be deemed invidious to have inferred that the great success of the Atlantic Mutual is due to Mr. Dennis alone. Not so. The company has, ever since its first organization, had a number of remarkable men as officers, and still has. Its financial management, the great discretion shown in producing such even average results of profits year after year, in despite of disastrous seasons



Charles Henry,
D,



A. J. Chapman

and the total destruction of other companies, is largely due to its President, Mr. J. D. Jones, who, with his Secretary, handles the enormous assets of the company—some \$15,000,000—investing and reinvesting as quietly as if they were but a one-hundredth part of the sum. Any bank would require 30 to 40 clerks to do the same work; but it is because Mr. Jones can throw off the more laborious detail of underwriting, with a certainty that it is being well cared for by Mr. Dennis and his aids, which enables him to give much of his care to the other branch. It is by the combination of such men that such results become possible, and each in his own sphere is a king. Mr. Dennis's reputation as an underwriter has extended abroad, and at one time, a few years ago, propositions were made him by a great London company to undertake its underwriting, and a salary of £10,000 per annum was offered. Similar proposals have also been made by local companies seeking to rival their great competitor, but Mr. Dennis's allegiance has been faithful to the Atlantic, and that company will probably retain his services and affections until he closes his duties in life.

In September, 1877, Mr. Dennis was unanimously elected Secretary of the Board of Underwriters of New York, which position he still holds. As an authority on all matters pertaining to insurance, Mr. Dennis takes the highest rank, and his opinion is often sought upon questions requiring the utmost nicety of discrimination, coupled with the most thorough knowledge of underwriting. He is known as an industrious man in the strongest sense of the term, and he has worked long, untiringly and with signal success for the advancement of the company with which he is so prominently identified, and in the management of which he is one of the most active and most implicitly trusted, and which has attained the proud position of being the largest and most important institution of the kind in the world. Underwriting, more than any other profession, demands a peculiarly diversified talent. The underwriter must be more than a good geographer, for even the peculiarities of the harbors must be familiar to him. He must be acquainted with the character of the lighters and small craft plying therein. He must know not only the goods which usually come from a foreign port, but must know their exact nature, their susceptibility to damage, and even how they are packed and secured. He must be able to draw inferences from the slightest facts as to the character of masters and merchants, and equally of the construction and seaworthiness of vessels. He must be familiar with marine law and the closest use of language, which must be in no instance doubtful or uncertain when employed in the policy of insurance; and his mind to admit claims must be always ready to yield its prejudices, and must have no idiosyncracies. All this Mr. Dennis realizes very fully, and his good health and strong constitution alone enables him to stand the enormous pressure which constant application to the office requires.

Mr. Dennis came to Brooklyn in 1838, and has been a resident of the city ever since, taking a helpful interest in its municipal, religious, educational and charitable institutions. For many years he has been a pew-owner in Plymouth Church, and is regarded by the friends of that celebrated organization as one of its most steadfast and liberal supporters. His charities have had the recommendation of being timely and bountiful; and it is said of him by one of Brooklyn's most prominent divines that "no man ever responds more promptly or more liberally, according to his means, to any call on behalf of charity than he. To him the charitable institutions and many of the people of Brooklyn owe much as their 'friend in need,' for his ready generosity has made him truly their 'friend indeed.'"

January 24, 1848, Mr. Jones married Emma Flint, daughter of the late George Flint of that family. Emma died on the 11th day of September, 1877, leaving one son and seven children, five of whom—John, Fred and Maria—Emma are living. On the 13th day of January, 1878, he married Sarah Esther Abbott, daughter of the late John Abbott of Chelwell, of Norwalk, Conn.

ISAAC F. CHAPMAN. The name of Chapman has been long known in England. Three brothers of the name emigrated to America about 1630, and were the progenitors of the Chapmans of the United States, especially numerous in New England and Pennsylvania, with some branches in other sections in New York. The father of Isaac F. Chapman was Robert Chapman, who lived in Thomaston (then Watboro), Maine, early in the present century, and was a ship-builder, lumberman, and farmer, owning large tracts of timber land, a shipyard, and a sawmill, and being himself and also a ship-builder and farmer. Robert Chapman married Lucinda Flint, of the family of that name, one of the many members of which have been distinguished soldiers and a daughter of Dr. Thomas Flint, who was a soldier in the American service during the Revolution, serving on board privateersmen, and once being captured and carried a prisoner to England.

Isaac F. Chapman was born in Damariscotta, Maine, April 8th, 1812. He was reared on the farm, assisting in the farm-work and in the labors at his father's mill, and attending the common schools of the day and place, more or less irregularly, until he was sixteen, when he entered the shipyard with his father, to learn the trade of ship-builder, and was employed there constantly for about eight years. In 1837, he opened a store in his native town, in the ownership and management of which Mr. Benjamin Flint became his partner not long afterward. They soon built a bark of two hundred and eighty tons, which they employed in small trading operations. In 1843, they removed to Thomaston, Maine, where they established a shipyard, and entered more largely into trade, extending their operations by means of the bark *Antiades*, which they built three years later. Their business increased rapidly from that time on, employing other vessels, which were built from time to time. Since that date, Mr. Chapman, in company with others, has built and managed the following named vessels: the bark *Antiades*, in 1846; the bark *Mermaid*, in 1847; the ship *Ionian*, in 1849; the ship *William Stetson*, in 1851; the ship *Orion*, in 1853; the ship *John F. Chapman*, in 1855; the ship *St. James*, in 1856; the ship *John F. Chapman*, in 1857; the ship *St. Mark*, in 1858; the ship *St. Nicholas*, in 1859; the first bark *St. John*, in 1860; the ship *St. Nicholas*, in 1861; the ship *St. John*, in 1862; the ship *St. John*, in 1863; the ship *St. John*, in 1864; the ship *St. John*, in 1865; the ship *St. John*, in 1866; the ship *St. John*, in 1867; the ship *St. John*, in 1868; the ship *St. John*, in 1869; the ship *St. John*, in 1870; the schooner *C. R. Flint*, in 1871; the ship *William R. Grace*, in 1873; the ship *St. Paul*, in 1874; the ships *M. P. Grace* and *Santa Clara*, in 1876; the ship *St. Stephen*, in 1877; the ship *Manuel Llaguno*, in 1879; the ship *L. Shepp* (thought and finished), in 1879; the ship *E. B. Sutton*, in 1881; the ship *J. E. Chapman*, in 1882; and the ship *J. E. Chapman*, in 1883.

In 1858, Mr. Chapman removed to Brooklyn, where he engaged in the business of ship-building and ship-repairing, and in the management of the shipyard, which he controls, and which are engaged in transportation to and from the principal ports of the United States and nearly all civilized nations. The shipyard, Mr. Chapman & Flint was removed from Thomaston, Maine, to Brooklyn, in 1858. The shipyard was then known as the Chapman & Flint Shipyard, and was one of the largest and most complete in the United States.

Mr. Chapman was born in 1833, by the admission of Mr. Albert G. Ropes to an interest in the business. In 1864-65, Messrs. Chapman & Flint built all of the houses on the east side of Montague Terrace, in one of which Mr. Chapman resides. At that time only two residences had been erected on the opposite side of the street. In many other ways Mr. Chapman has contributed to the prosperity and advancement of the city of Brooklyn, with whose general and benevolent interests he has, from time to time, been identified. His family have been Baptists for generations, and he is an active and liberal member of the First Baptist Church in Pierrepont street. He married Martha P. Hitchcock, daughter of Daniel Scott, Maine, who died Sunday, November 4, 1883. Mr. Chapman has had born to him three children, a son and two daughters, the former having died, and the daughters surviving.

The career of Mr. Chapman has been that of a self-made man. Beginning at the bottom of the ladder, he learned thoroughly all of the various details of his business, becoming familiar with the successive processes of converting growing timber into seaworthy vessels; and his excellence as a ship-builder is attested by the fact that no vessel he has built has been destroyed except by fire. His success has been remarkable; but he has the satisfaction of feeling that it has been deserved, and is the legitimate reward of worthy exertion.

JAMES MCCHESENEY, son of Nathaniel and Mary McChesney, was born in the city of New York, October 20th, 1817. His paternal ancestors were Norman subjects of King James of Great Britain, Scotland, France and Ireland, called Chesné, who emigrated to the Scottish Highlands. There the first-born male child originated the Mac (son of) Chesné, changed to MacChesney, and became a chieftain with his clansmen, under Sir William Wallace. Upon the capture and death of the latter, McChesney went to County Tyrone, Ireland; and thence his descendants emigrated to New Jersey, America, about the end of the 17th or beginning of the 18th century. The family were represented on the battle field of Monmouth. His grandfather, Robert, was a Justice, afterwards member of the Council (Senate) of New Jersey, also member of Congress.

Nathaniel McChesney, father of James McChesney, of Brooklyn, was born on the Monmouth battle ground, June 29th, 1783. He attended school but little, on account of the fact that early in life he entered the shop of his uncle, in Cranbury, N. J., to learn the trade of wagonmaker, and was thus shut off from educational advantages which he otherwise might have enjoyed. He appears, however, to have had an insatiable thirst for knowledge, and spent all of the time he could spare from his work in reading. The bent of his mind was toward theology and the natural sciences, while history, mechanics and other useful branches of knowledge claimed his earnest attention.

In 1804 he came to New York and was installed as foreman in the once famous carriage shop of John Lawrence. About 1806, he married Mary Lawrence, the daughter, not of his employer, but of Captain William Lawrence, the first captain of the watch and of the troop in New York after the close of the Revolutionary War. About 1810 he began business for himself on Franklin street, whence he removed to Broadway, opposite Lispenard street. He became noted as a carriage builder, and built fine and costly vehicles for the Astors and others of the leading families of New York at that time. Later, he opened a carriage repository at No. 440 Broadway, and sold carriages and other light vehicles for about twenty years. It is estimated that he was for forty

years engaged in manufacturing and selling carriages in New York. Mr. McChesney was a volunteer during the war of 1812, and served on Staten Island, opposite the site of Fort Hamilton. He died after a very busy and useful life, July 4th, 1847, in New York, where he had passed most of the years of his manhood. The issue of his marriage with Mary Lawrence was eleven children, of whom James McChesney was the sixth.

James McChesney was an invalid from birth, and has never been well a day since; having been a constant sufferer from inherited neuralgia and dyspepsia, and at times the victim of accidents, which have disabled him physically for months and years. Yet, though for nearly all his life under the care of physicians, he has been remarkably active in business. Most men of his peculiar physical composition would never have become known to the business world; for it is so well known that nothing so surely saps the foundations of enterprise as continued ill health that the trite fact does not require reiteration here. But it seems that when Nature denied him the boon of good health, she took away the sting of the deprivation by endowing him with unusual enterprise and perseverance, coupled with a natural aptitude for business and a veritable talent for financiering. This placed him in the race for fortune far in advance of some of his more robust competitors, and the career that lay before him was that of a projector of important enterprises and a successful manager of large financial and commercial interests.

Mr. McChesney began to attend school at the age of seven, and, about eight years later, was graduated with honors from the once famous high school of Sheppard Johnston, on Broadway. At the age of fifteen he entered the dry goods store of Messrs. Arnold, Hearn & Co., on Canal street (the present firm of Arnold, Constable & Co.), from whose employment he went to that of Messrs. Uddell, Pierson & Co., another firm of once well-known dry goods merchants, also located on Canal street. October 28th, 1838, he married his cousin, Sarah Maria Lawrence, of New York, who is still living, and to whom he gives all praise for his length of life and successes. He was for a time associated with his father at his carriage repository on Broadway; and then returning to mercantile business, entered the store of James Beck, at No. 357 Broadway, as a salesman. Soon his talent for accounts and a remarkable capacity for detecting counterfeit money (of which large quantities were in circulation, owing to the pernicious banking system then in vogue), became apparent to his employers, and he was promoted to a desirable position in their office. In the meantime, his father had retired from the carriage business, and was about to remove to a farm he had purchased on Long Island, and Mr. McChesney accompanied him, removing to Long Island and remaining there seven years. But it was not as a farmer that Mr. McChesney was designed to make his mark, and his father, not less active than he, abandoned farming at the expiration of six years and established a banking, exchange and commission house in Wall street. This, at his death, passed into the possession of James McChesney, who continued the enterprise until 1857, when the concern became involved in the fate that year so common to commercial and financial enterprises in all parts of the Union. It is but just to Mr. McChesney to state that, despite the demoralizing tendency of the time, he liquidated every dollar of indebtedness, disdaining to take advantage of such opportunities for compromise as were open to him. It was the experience of his business career thus far, with the "wild cat" money then in universal use, that led Mr. McChesney (as is believed, before the measure was proposed by any one else), to advocate the adoption of notes printed by the government and of uniform



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Edwards

design, except for the names of the different banks and the signatures of their officers, by whom they should be issued. The wisdom of this plan is now practically demonstrated in the use of the national bank notes.

Prior to this time, in 1850, Mr. McChesney, in partnership with Captain Smith Fancher, had engaged in the vessel and lightering business. Shortly afterward, in 1859, was organized the firm of Shaw, Fancher & Co., consisting of L. B. Shaw, Smith Fancher, John H. Hebert, Andrew Luke and James McChesney. Mr. Hebert withdrew in 1860, Mr. Luke in 1864 and Mr. Fancher in 1865. The firm then became Shaw & Co., the partners being L. B. Shaw and James McChesney. Mr. Shaw succeeded Shaw & Co., in May, 1871, since when Mr. McChesney has lived in comparative retirement. He was one of the projectors and first Treasurer of the *New York Floating Elevator Company*, of whose stock he is now one-twelfth owner; and one of the originators of the *Excelsior* grain stores at the Atlantic Dock, and of floating elevators. He was also one of the promoters of the *New York Produce Exchange*, in the operations of which he takes a very lively interest; and the leading enterprises of his day have always found in him a friend ready to aid with wise counsel and substantial encouragement. His business acquaintance is very extensive, and his reputation for all those qualities which go to compose that rare product of this age, the honest business man, is unchallenged. Quietly and unostentatiously, Mr. McChesney has aided his brethren in times of trouble, and no man in Brooklyn has given more according to his means to religious and charitable objects than he. His hand has been ever open to the relief of suffering, and his leisure time largely employed in helping the sick. The *Homœopathic Hospital* of Brooklyn owes its present standing to his donation to educate female nurses. The present agricultural and industrial state of the *Truants' Home* was his suggestion and met with his aid. In 1863, during a severe illness, he willed liberally to many churches and charitable institutions; and, on recovering, executed at once the provisions of his will as to such object in person. Any statement of his benefactions is unobtainable, for he shrinks from talking of his good deeds, and is ever reticent about himself; but it is well known that, in generations to come, those interested in many of the churches, educational institutions and hospitals of Brooklyn and New York, when they consider by what means they were established and, in a measure, supported during troublous times, will have cause to remember Mr. McChesney, whose chief failing seems to have been his inability to say the one short word "no," that at times would have saved him from imposition by men and institutions seeking his aid. He has been a member of the Masonic and Odd Fellows orders, of the Druids and of other organizations, with which he has many times been connected officially. He has often been solicited for public office, but has persistently refused all such honors. Responsible and lucrative positions have been proffered him by many important corporations, which he has been obliged to refuse on account of ill health and various business connections. Always unassuming and self-sacrificing, he has been a life-long, unobtrusive, non-office-seeking democrat, and has done as much for "his kind" as any man of his time and opportunity.

ELIHU SPICER, JR.—This gentleman, who is familiarly known as Captain Spicer, is a son of Elihu and Jemima (Fish) Spicer, both of English descent, and was born in Groton, Connecticut, April 13th, 1825. It is a fact curious enough to be worthy of note that Groton was the native place of five generations of the ancestors, both on his father's side and

his mother's. His father, who was formerly a steamboatman, is still living there in his eighty-eighth year.

Afterwards, the young subject of this sketch, by land, sailed to England, and was one of the original crew of the *John McInturn*, Captain Smith. The vessel was afterwards lost on the New England coast, only three board members having the good luck to be rescued. Captain Spicer, one of the survivors, was sent to the aid of Mr. J. B. Nelson. His adventures are so much that he has been the general captain of the *John McInturn*, and in May twenty-fourth last he took command of the bark *Enterprise*, owned by Captain Spencer and others, and employed in the Mobile line of packets of E. D. Hartlett & Co. By June, this vessel, with Captain Spicer still in command, was bound for San Francisco, by way of A. A. Low & Co., and sailed thence to China and back to New York. Captain Spicer continued in the line Enterprise, China and East India, until 1863, when he severed from active connection with sailing vessels, though retaining an interest in some.

At the time last mentioned, Captain Spicer, in company with Mr. C. H. Mallory, engaged in the transportation business, and so successful were they that you have here the since well-known house of C. H. Mallory & Co. was established, the firm consisting then of Messrs. C. H. Mallory and Elihu Spicer, Jr., and now of those gentlemen and the son of Mr. Mallory, who have since acquired an interest in the business.

Immediately after the close of the rebellion, Messrs. C. H. Mallory & Co. embarked in business very extensively, and have since added largely to their facilities. In 1866 they established a line of vessels to Galveston, Texas; in 1867, a line to New Orleans, Louisiana; in 1876, a line to Florida; in 1879, lines to Brazil and to Nassau and Cuba. The New Orleans line was abandoned in 1876; the Brazilian line in 1882, and the Nassau and Cuban lines in 1883, leaving the Galveston and Florida lines still in operation. Both of these lines are well equipped and of extensive carrying capacity, and the firm of C. H. Mallory & Co. is one of the most favorably and widely known in New York, having long had, besides the steamships employed upon the above-named lines, a larger or smaller number of sail vessels plying to the different ports of the world, though, during recent years, most of this class of craft have been disposed of, the firm owning at this time ten steamers running on the lines above mentioned. Their office is on Pier 21, East River, where Captain Spicer first began his seafaring life.

Captain Spicer was married in 1844, to Mrs. Mary Emory, of Mystic, Connecticut, who died in 1871, having borne him three children, all of whom are dead. His eldest son, U. D. Spicer, who was widely known and beloved in Brooklyn, died at the age of twenty-three, in October, 1877.

Captain Spicer has been a member of the City of New York, and takes a deep interest in its growth and prosperity. A democrat prior to the late war, he has been a republican since, though he is not a conventional partisan. He is connected with various commercial interests, being Vice-President of the *New York Chamber of Commerce*, the *New York Produce Exchange*, and the *New York Mercantile Exchange*. He is liberal in religious belief, believes in spiritual immortality, but sympathizing with what is good in all religions, and owner and attendant at Plymouth Church.

ELIHU D. SPICER, JR.—This young gentleman, who is well known or highly respected in Brooklyn and New York, is that which heads this sketch. Mr. O. T. Spicer, of New York, and his son, Elihu D. Spicer, Jr., are the

was John O'Donohue, an Irish gentleman, who had received a liberal education at Dublin, and had established himself in that city as the proprietor of a grocery and ship store. He subsequently became a prominent merchant in that city; reputable for all that makes a man honorable and trustworthy, and beloved for a generous charity that has caused his name to be remembered most gratefully by many a poor man whose necessities he relieved, or whom he assisted to obtain a home—and such might be counted by hundreds. Mrs. John O'Donohue was a lady of rare attainments and such commendable Christian virtues as rendered her a fit wife for such a man. Her domestic virtues were many and unostentatious, and she is remembered by many of the residents of the Eastern District of Brooklyn, and by numerous others who were so fortunate as to know her, as a musician of wonderful talent and proficiency. This excellent and, in every way, admirable couple were the parents of five sons, all of whom lived to be honored and respected by their fellow-men, and to attain prominence among the merchants of New York.

At the early age of ten years, Joseph J. O'Donohue entered his father's store, the business of the latter having, before this time, advanced to the dignity of a wholesale trade, to learn the business and make himself generally useful. His brother, James, was similarly employed; and, in order that they might not be kept from obtaining the rudiments of an education, the two brothers were allowed to attend school on alternate days, each of them receiving thus three days of business training and three days of schooling each week. That the policy of the elder O'Donohue in thus early familiarizing his sons with the every-day routine of business life, and teaching them the paramount value of time, both in work and study, was not a mistaken one, is evidenced by the subsequent successful career of each of them. That the boy turned his opportunities to advantage during the ensuing five years is proven by the fact that, at the age of fifteen, at a period when most boys have not taken even the initial steps in business ways, he had entire charge of his father's stores; and, with his brother James, he was a partner in the firm of John O'Donohue & Sons, wholesale dealers in tea and coffee, before he had attained to his majority.

To the firm of John O'Donohue & Sons, which originally consisted of John and James and Joseph J. O'Donohue, Peter O'Donohue, another son of John O'Donohue, was admitted in 1841 and John and Thomas O'Donohue, two younger sons, in 1868. Late in the year last mentioned, the senior member of the firm died, and the house has since been known as that of John O'Donohue's Sons. John O'Donohue had removed his stores from Peck Slip to No. 234 Front street, and thence to 239 Front street. In 1865, the stores of the firm were removed to No. 88 Front street. James O'Donohue retired from the business in 1872, and Joseph J. O'Donohue, in 1880, the firm now consisting of Peter and John O'Donohue and two sons of Peter. November 1, 1880, Joseph J. O'Donohue and Atherton Foster established themselves as importers of coffee and tea, at No. 101 Front street. On account of ill-health, Mr. Foster found himself obliged to retire from active business life, and the partnership was terminated by mutual consent January 1, 1892. One year later, Mr. Joseph J. O'Donohue, Jr., became a partner with his father, and the house has since been known as that of Joseph J. O'Donohue & Son. The firm takes high rank among houses of its class in New York, and is doing a large and rapidly increasing trade, which Mr. O'Donohue has seen advance from \$40,000 per annum, to \$6,000,000 per annum, with a yearly average of fully \$4,000,000 for some

time past; the firm having numerous branch houses and a very extensive foreign correspondence.

For many years the name of O'Donohue has been closely and conspicuously interwoven with the history of Williamsburg, which was, until his death, the residence of John O'Donohue, Sr., and, until 1867, that of Joseph J. O'Donohue, and, to the present time, the abiding place of others of John O'Donohue's sons. In connection with plans for public improvement and the advancement of the general interest of that locality, the name has been represented during a protracted period by father and sons, and in such a manner as to leave its impress on the prosperity and present status of the entire Eastern District. It is doubtful if a more popular young man than Joseph J. O'Donohue was ever reared in Williamsburg, where, from early in life to the present time, he has been honored and trusted as very few of his fellows have been. His name is a favorite one there, as it is one of prominence in the commercial circles of New York; and there are few, indeed, of the middle-aged or elderly men of that section of Brooklyn who do not regard him as an old friend, tried and staunch, enterprising in all that promises to serve the public welfare, generous to a fault; a man in whom are combined all those admirable qualities which characterize the faithful friend, the good citizen, and the ready, liberal and efficient helper of all deserving causes.

It would be almost superfluous to remind any resident of Brooklyn of the former suicidal mismanagement of the ferry interests connecting New York and Brooklyn, E. D., which was long a fruitful theme of discussion, both verbally and by the press of both cities. Elsewhere in these pages may be found sketches of the history of the several ferry companies which have from time to time been organized to afford means of communication between Brooklyn and New York; though, for reasons which must be obvious to every fair-minded reader, little of the acrimony and ill-feeling of the past, engendered by the mismanagement of these great public interests could be depicted in this work. That the citizens of Williamsburg had just grievances under the old regime no one will deny at this time. That they were practically at the mercy of men who placed their own ends above the interest of the public is conceded by all who are informed upon this subject. The dawning of a new era in ferry management occurred in 1858, when Joseph J. O'Donohue and his father, together with other well-known gentlemen and citizens of Williamsburg, organized the Long Island Ferry Company, and instituted a formidable rivalry against the Brooklyn Ferry Company, of which the late George Law was the head and controlling spirit. The projectors of the new company had at heart the interests of Williamsburg, which had been prevented from obtaining a growth and prominence to which its location and numerous manifest advantages unquestionably entitled it, by a policy on the part of those who had dictated in ferry matters, which has since been proven to have been as antagonistic to their own interest as it was detrimental to the interest of the public. In 1864 a compromise was effected by which the two rival companies were merged into one, which was called the New York and Brooklyn Ferry Company. Upon Mr. O'Donohue's accession to the presidency of this corporation, he at once inaugurated certain improvements in ferry accommodation, which did more than any other interest has ever done to enhance the prosperity of Williamsburg. Boats were rebuilt; ferry-houses were enlarged and made more attractive, externally and internally, and vastly more comfortable; fares were reduced; and, in a word, everything was done that was dictated by a liberal



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spirit of enterprise to improve the communication between the Eastern District of Brooklyn and the city of New York. The benefits that have accrued to Williamsburg from Mr. O'Donohue's policy are practically incalculable. All that large portion of Brooklyn within the borders of the 13th, 19th, 14th, 15th, 16th, 18th, 20th, 21st, 22d, 23d and 25th wards, has been built up rapidly since the period of equitable and far-seeing ferry management began, and has assumed an importance to which it would never have attained under other conditions. Indeed, it is to Mr. O'Donohue, whose name is a veritable household word among them, that the citizens of the Eastern District give much of the credit for the many improvements around them. The value of real estate has greatly advanced as a direct result of Mr. O'Donohue's wise policy, and to the same influence is ascribed the great increase in the number of costly and elegant residences within the territory described and the growth of local commerce and manufactures. That the ferry accommodations of the Eastern District may be still further improved, Mr. O'Donohue admits, and in doing so is resolved to be one of the first to supply any want for further ferriage that may be seen to exist, and it is his intention at an early day to add to the accommodations provided by the Grand street, the Houston street, the Roosevelt street, and the Division avenue ferries, such as may be afforded by a new ferry from Broadway, Williamsburg, to 23d street, New York, of which he is the chief projector. Ground has been purchased for the purposes of this proposed improvement, and it is confidently predicted that the ferry will be in operation within a year.

It was not alone in connection with ferry affairs that Mr. O'Donohue was prominent in Brooklyn during his residence there. With its social, political, commercial and beneficial institutions he was closely identified. While yet a young man, he was a member of the old Fire Department of Williamsburg. He was a constant and liberal contributor toward the maintenance of the causes of education and Christianity, and even to this day continues his benefactions to churches without regard to creed or denomination, though he has, perhaps, given more largely to St. Peter and Paul's church, of which Rev. Father Malone is pastor, than to any other religious organization in Brooklyn. With this church his family have been identified for two generations; and, speaking of him on a certain memorable occasion, almost twelve years ago, Father Malone said: "I have known Mr. O'Donohue for thirty years, and he is one of five sons, whose honored parents before them I also knew. He is a full-blood American, but half Irish, and liberal enough to love all his fellow-citizens, irrespective of religious or political differences." Until his removal to New York, Mr. O'Donohue was a conspicuous member and, a portion of the time, chairman of the Democratic General Committee of Kings county, and for a number of years he was a delegate from Kings county to the democratic state convention. He was, on one occasion, tendered the nomination for Alderman for the 13th Ward; and, later, was offered the nomination for Mayor of Brooklyn, but declined to allow his name to be used in that manner. Though a democrat from his youth up, Mr. O'Donohue was an outspoken supporter of the war for the suppression of the Rebellion from the time of its outbreak until its close; later advocating such measures as he believed would most speedily bring to both North and South the benefits of established peace and mutual commerce. In this connection it is remembered of him that he was secretary of the first "War Meeting" held in Williamsburgh, in 1861, to devise means to provide for the maintenance of soldiers' widows and orphans and the wives and children of men who had

gone to the front. During the war many services were rendered. At various times he was elected to the important offices of Brooklyn of such nature as to benefit those in a direct or indirect manner. One year, say, he acted as the Secretary of the Fair for the relief of the soldiers, with Mr. Vanvorster M. Bond and others. He secured the re-opening of the bridge when the project was abandoned by the city, an achievement of which he was in no slight degree influential.

Since his removal to New York in 1881, he has been a resident of the 19th Ward of that city, and has been one of the prominent in local and national politics. In the 1880s, some time a member and Vice-President of the Youngmen's Club General Committee. At the next election in 1881 he was tendered the nomination for Mayor. In 1894 he was appointed Park Commissioner by Mayor Washington, and served as such until 1896, when he resigned on account of having become a presidential elector on the Democratic ticket. Upon his appointment as Park Commissioner, the leading newspapers of New York commented favorably. In this connection, one prominent journal said: "Probably no appointment made by the Mayor will be more acceptable to democrats and republicans alike than that of Mr. O'Donohue. He is universally esteemed as a man of high character and one who will have but one object in view in the discharge of his duties as a public official—that of the public good." He was a prominent member of the celebrated Committee of Seventy, organized during the Tweed regime, and it is worthy of note that he was the only Tammanyite selected as a member of that body. Beyond his earnest desire for the public good, and more conspicuous than any other principle advocated, Mr. O'Donohue has ever held the advancement of the workingman; and it will not be soon forgotten that in a speech made during his incumbency of the office of Park Commissioner, which was referred to by the *New York Herald* as "the sensation of the season," after the reduction of the wages of the laborers was being discussed, he said that he would "resign the position rather than consent to the reduction."

Mr. O'Donohue is a trustee of the *New York Coffee Exchange* and a member of the *New York Chamber of Commerce* and the *New York Board of Trade and Transportation*. At different times he has been chosen director of banking, insurance, railway and other corporations, and among his important connections at this time it may be mentioned that he is a director in the Eighth and Ninth Avenue Elevated Railroads of New York. The important enterprises with which he is constantly solicited, but firmly refuses, to connect himself, are so numerous that a mention of them would more than anything else, demonstrate the high degree of confidence of the general public in Mr. O'Donohue's integrity and sagacity. In 1880, with other gentlemen, he bought the stock of Daniel Drew in the *People's Line* of steamers, plying between New York and Albany, in which he has since been a director and large owner. For years he has had a membership in many of the leading clubs of New York, and as a "member" of the *Knickerbocker Club*, the *Manhattan Club* and other similar organizations.

September 7, 1858, Mr. O'Donohue married Miss Teresa M. J. Riley, of New York. They have two sons and two daughters living, and death has deprived them of two sons and one daughter. Mr. O'Donohue's eldest son, Joseph J. O'Donohue, Jr., is now a partner in his father's extensive business, to which it is likely he will succeed in due time; for his business capacity and the rapidity and thoroughness with which he has acquired a knowledge of the business to give proper management to property.

continue to be prominently identified with the coffee trade of New York long after the subject of this sketch shall have terminated his connection with it. Mr. O'Donohue has twice retired from business, but his life has been so busy a one that he found it impossible to remain long inactive. His first retirement was in 1872, when he went to Europe, making a somewhat protracted stay. On the evening of May 7, shortly before his departure, he was tendered a complimentary banquet at Delmonico's, at which were present a hundred well-known citizens, including senators, judges, journalists, physicians and divines. Numerous witty and brilliant speeches were made; and a poem, full of good wishes and breathing the spirit of friendship, written by the late Hugh J. Hastings, of the *New York Commercial Advertiser*, who was unwillingly absent, was read; and the occasion was, in all respects, one to be long and pleasantly remembered by all who participated in the pleasures of the evening. Mr. O'Donohue's retirement at the severance of his connection with the firm of John O'Donohue & Sons, January 1, 1880, was intended to be final, and it was only to establish his son in the coffee trade, for which he had expressed a preference, that he sometime afterward re-entered the trade with which his name has been so long and favorably identified.

It may not be too much to say, in conclusion, that Mr. O'Donohue has been, in everything he has undertaken, as uniformly and signally successful as any man in the circle in which he moves. It would be idle to suppose that his success has been vouchsafed to him by "luck," or by fortuitous accidents, for in this practical age we look elsewhere for the source of all worthy achievements. Sagacity, foresight, liberality, an extraordinary judgement of men, and the deserved confidence of all with whom he had relations, have together combined to aid him in his well-directed efforts. In commerce, he has been amply rewarded. In politics, his honors have been limited only by his will to accept them. In society, he is the peer of the most distinguished in all walks of life. His management of a great Fair, by which nearly \$75,000 was raised, for the benefit of the New York Foundling Asylum, and his success in establishing various charitable and religious institutions, or freeing them from the incubus of debt, are simply examples of the success which has attended him through life.

TIMOTHY HOGAN.—There is probably no other citizen of Brooklyn who has been so long and so prominently identified with the shipping and steamship interests of the port of New York as the gentleman whose name heads this article. His father was Michael Hogan, a man well known among the warehousemen of his time in Liverpool, England, where Mr. Hogan was born February 17th, 1835. Early in life he developed a love for the sea, and an unconquerable desire for the peril and excitement of a seafaring life; and in 1848, at the age of thirteen, we find him employed as an ordinary seaman on the ship *St. George*, owned by David Ogden, a merchant of New York, and plying between English ports and the metropolis of the New World. Later, he was employed on board the *Margaret Evans*, belonging to Messrs. N. L. and G. Greenwald, and commanded by Captain E. G. Tinker, who was, a few years ago, Captain of the port of New York, and is now one of that city's wealthy and honored citizens. After this, he served on the *John R. Skiddy* and *Constellation*, of the "Red Line," owned by Robert Kermit, holding the position of Chief Officer for some time prior to his abandoning a seafaring career in 1854.

In the year last mentioned, Mr. Hogan went to New Orleans to become foreman for Messrs. Gale & Brown, a lead-

ing firm of stevedores. In 1858, this firm was succeeded by the firm of Brown & Hogan, Mr. Hogan acquiring the interest of the retiring partner, Mr. Gale, and becoming the junior member of the firm. A prosperous business was done for some years prior to the outbreak of the rebellion, which, in common with nearly every other branch of enterprise there, was suddenly terminated by the city's being declared under blockade June 10th, 1861. That was a memorable time in New Orleans. Men with thousands at stake were looking anxiously about for some means to bolster up or retrieve their failing fortunes. To many there who, like Mr. Hogan, had no sympathy with the Southern cause, discretion wisely persisted in proved of much service in the strait in which they were placed. He was not one to remain long inactive, and, seizing the first promising opportunity for business that offered, he was in July actively engaged, under contract with the Confederate government, fortifying New Orleans by throwing up earthworks at Chalmette, Pass Manchoe and the Rigolettes on Lake Ponchartrain. This work was yet uncompleted when Farragut took New Orleans on the 20th of April, 1862, Butler assuming the government of the city about ten days later. Again, through the vicissitudes of war, Mr. Hogan found himself without occupation, and this time with a claim amounting to many thousands of dollars against the Southern Confederacy; which, with accumulated interest, he would doubtless find it hard to give away at this time, though, had he chosen to remain in the South, he might at that time have realized considerable from it.

Returning to New York in the summer of 1862, he formed a copartnership with Mr. James Pinder, under the firm name of Pinder & Hogan, stevedores, which was dissolved in 1869. This Northern venture was very prosperous, principally on account of the business of New Orleans ship owners, which Mr. Hogan held and transferred to the firm of which he was a member. Many of these he had previously transacted business for in New Orleans, disposing of their wooden vessels and entering keenly into the East India and Calcutta trades to New York and employing iron ships instead. Iron ships superseded the wooden ones rapidly, and for a number of years the firm had a monopoly of the iron ships in the port of New York. When the Suez Canal had been proven a success, Mr. Hogan, in company with some of his English business friends, entered largely in the building of the kind of iron freight steamers with compound engines known as "tramps," and consuming a comparatively small quantity of coal. At that time, and for a number of years afterward, these steamers were a very profitable investment; for their utility was as yet conceded by only a few men of trained judgment and keen foresight, like Mr. Hogan and his companions, and ship-owners were ordinarily shy to invest in them; this fact insuring them a practical monopoly in that department of maritime property. The prevailing opinion, which has since been thoroughly exploded, was, that such vessels could not cross the Atlantic in the winter months. So thoroughly has this fallacious idea been removed, that at this time seventy-five per cent. of the exports of the United States to Europe is transported in this class of vessels. Mr. Hogan was one of the promoters of the *Monarch Line* of steamers from London, which was organized in 1880; and is connected with six lines of steamers altogether, being an extensive owner in a majority of them. Some years since he organized the firm of T. Hogan & Sons, the partners in which are Timothy Hogan and his sons, Charles W. and Jefferson Hogan. The firm is heavily interested in floating property, such as elevators, tugboats, barges and other transportation facilities for harbor use. Each member of the firm owns a membership of the New York Produce and Maritime Exchanges, advantages



Sam'l Hogan

which are possessed by but comparatively few houses. Messrs. T. Hogan & Sons are well known in the New York trade as the consignees of several ships from foreign ports, and stand high in the commercial world, both as to capital and integrity.

In 1857, Mr. Hogan married Mary Nichols Millward, a native of Liverpool, who bore him eight children, five of whom are dead. Arthur F. Hogan, a younger son, not yet identified with his father's business, and consequently not mentioned above, is yet in school, but bids fair to develop all of those sterling business qualities which characterize his father and brothers. Mrs. Hogan died in August, 1882, mourned beyond measure by her immediate family and deeply regretted by a wide circle of friends. Especially has her helpful presence been missed by those actively interested in the charitable institutions of the city, who ever found her ready to aid, by gifts of money, by her counsel and by loving labors, all deserving objects. In the Sheltering Arms Nursery she was especially interested, and was officially connected there-

with. All the charitable institutions of Brooklyn were represented at the funeral, and her will and her legacy to the Sheltering Arms Nursery, St. Peter's Hospital and Children's Aid Society were generous in the extreme. In some of these, and in the maintenance of a noble charity, Mr. Hogan has labored to the utmost, and, as he now has devoted his entire attention to the Sheltering Arms Nursery, of which he is one of the trustees. His family have long been communicants of St. Peter's Protestant Episcopal Church, St. Peter's Avenue, Brooklyn, where for years sustained the relation of vestryman.

Politically, Mr. Hogan is a republican, and a firm believer in the principles and an ardent admirer of the record of that party in all questions of national significance. Upon general issues he goes to his long political convictions. In local affairs he believes in honest and economical government, and in the improvement of the city and harbor as far as possible by means of a non-partisan party administration.

THE
MANUFACTURING INDUSTRIES
OF
BROOKLYN AND KINGS COUNTY.

By *L. P. Brockett M.D.*

SECTION I.—Introductory.

GROWTH OF MANUFACTURING INDUSTRIES in Brooklyn and Kings County in the last fifty years.—Notwithstanding the stale and oft-repeated jest that “Kings County, and Brooklyn especially, was only New York’s bedroom,” the defamers of the county have been compelled to acknowledge, for the last twenty-five or thirty years, that the county made a very respectable showing in its manufactures. In 1850, when the population of the county was 138,882, its manufactures, as reported by the seventh census, were yielding an annual product of \$14,681,093; in 1860 its population had doubled, being 279,122, and its manufactures had more than doubled, the annual product being reported in the eighth census as \$34,241,520. In 1870 the population had increased less rapidly, owing partly, perhaps, to the war; it was 419,921, an increase of fifty per cent.; and the report of the manufactures of the county in the ninth census showed an increase of about eighty per cent., being \$60,848,673. It is worthy of notice, however, as indicating either the worthlessness of the method of collecting these statistics, or the carelessness of those who were appointed to collect them, that the largest industry of the county—sugar refining—which ten years before had a reported annual product of \$3,794,000, was not reported as having any existence in 1870. In 1880 the annual product of the eleven sugar refineries of Brooklyn alone was \$59,711,168, almost equal to the entire reported product of all manufacturing in the county in 1870.

Imperfection of the Census Returns. The probable aggregate in 1883.—The census of 1880 (the tenth) did not report the manufactures of the States by counties until the summer of 1883; though it had made two previous attempts upon those of twenty leading cities, of which Brooklyn was one; but this report was, after all, of but little consequence, as the omission of petroleum refining, breweries and dis-

tilleries, ship building and repairing, illuminating gas, etc., make its footings of no great value. The total production of the county, according to the latest revision of this census, was \$179,188,685, and, fortunately, we have the data to supply these omissions from official sources. They amount in the aggregate to \$24,365,106, making the entire census report of our manufactures \$203,533,791. The faults of the census methods, never more obvious than in this enumeration, the omissions, not often willful, but sometimes clerical errors and at others the results of gross carelessness, would increase this amount to at least \$210,000,000; while the vast increase in every department of manufactures since 1880 renders it absolutely certain that the present annual product exceeds \$250,000,000.

It is to be remarked, while giving all honor and praise to the Special Agent of the Census Bureau for Brooklyn manufacturers, Mr. James H. Frothingham, whose efforts to perfect these returns were unwearied, and were crowned with remarkable success, that he was greatly hampered and obstructed, not only by the faulty methods of the census office blanks and instructions, to which we have already alluded, but by the most unwarrantable and absurd assumptions of universal knowledge on the part of the Washington officials, which often led them into grievous blunders. Evidently the compilation of the census is not yet one of the *exact sciences*. As a rule, no industry was counted which did not give an annual product of over \$1,000. When we consider how many of these small industries there are, which, though making no display, yet give a moderate income to those who conduct them, we shall be likely to coincide with the opinion of Mr. Lorin Blodgett, who estimates the total product of these unnoted industries, in Philadelphia, in 1880, as not less than \$15,000,000.

When we add to these, as we must, the other great errors of the census, we shall see that Brooklyn and Kings County have far more cause than Philadelphia to question its accuracy.

The Comparative Extent of the Manufactures of Brooklyn and Kings County.—

The statistics of Brooklyn manufactures, according to the census of 1880, omitting the breweries and distilleries, were 5,281 manufacturing establishments, using \$62,719,399 of capital, and having in their employ an average number of 37,878 males above 16 years of age, 7,299 females above 15 years of age, and 3,621 children and youth, a total average number of employees of 48,898, while the greatest number employed at any time in the year considerably exceeded 70,000. Adding to these the persons employed in the minor industries not enumerated, those in the breweries and distilleries, and those in manufactories in the county towns, and we have an aggregate of nearly 80,000 employees, and including those dependent on them, a population of more than 250,000, directly and indirectly relying on manufacturing interests for a living. The total amount paid in wages during the year 1879-80 was stated to have been \$22,867,176; the value of the raw material used, \$130,108,417; and the annual product (except the industries specified above, and minor industries), \$179,188,685.* These figures show an apparent increase of 233 per cent. in manufactures, in the decade 1870-1880, while the increase of population had been only about 46 per cent., from 419,921 to 599,495.

There is every reason to believe that the increase since June, 1880, both of population and manufactures, has been in a still more rapid ratio. New branches of manufacture have been introduced, and those already established have been greatly enlarged, some of the largest having been more than doubled. Brooklyn now ranks as the fourth city on the continent in the amount of its manufactures, only New York, Philadelphia and Chicago surpassing her in this respect; and from the best attainable data, in 1883, she probably surpassed Chicago, thus making her rank that of the *third city* in the Union in manufactures as well as population. Kings County has a larger annual product from her manufactures than any *State* in the Union, except New York, Pennsylvania, Massachusetts, Illinois and Ohio. Connecticut, that busy hive of industry, follows her very closely in man-

ufactures as well as of population. What are the more prominent industries which make up this enormous?

SECTION II.

The Sugar Refining Industry.

Vast Extent of the Business.—As we have already intimated, the production of refined sugar, *molasses and sugar*, is one of the largest of the manufactures, and, according to the census reports, amounted to almost one-third of the wages. As we shall see presently, there is reason to believe that it constituted about two-fifths of the whole of the manufacturing of the County. It employed, in 1880, according to the census, almost 2,000 persons, mostly of men, and paid out \$254,929 annually, in wages. The reported capital of the eleven companies was \$10,846,000, the material used was \$56,423,868, and the annual product, \$59,711,168.

While these figures, though obtained with great care, and as accurately as possible by the unimpeachable agent of the census office, are liable to some correction, the census methods being, in many respects, misleading, yet the value of the annual production does not differ very largely from that of 1881, 1882, and 1883, for these reasons: the duty on imported raw sugar was materially reduced in 1881, and there was a corresponding reduction in the value of the refined product; there has been a great increase in the production of adulterated sugars, within three years past; a glucose sugar, that is, one containing 25 to 30 per cent. of glucose, being made to resemble very closely in color, appearance and weight, the pure sugar, though containing only $\frac{1}{2}$ the sweetening power; this sugar could be made for 5 cents a pound, and was sold at 7 $\frac{1}{2}$ cents, while the pure sugar cost 14 cents to make. A reduction in price followed the putting of these fraudulent sugars on the market. There was also a great falling off in production, in consequence of the destruction, by fire, in 1881, of the immense refineries of Messrs. Havemeyer & Elder, which turned out a million pounds of refined sugar a day. It was highly creditable to the Brooklyn refineries of pure sugar, that, notwithstanding these difficulties and obstacles, they actually increased their production by at least thirty per cent., and maintained an annual value of their product of about \$60,000,000.

This condition of affairs is now changed, in many respects. The great refinery and filtering houses of the Havemeyers are rebuilt on a larger scale than before, and are turning out 1,200,000 pounds of sugar every day, with a capacity, if *properly managed*, of increasing that production. The other sugar refineries are being driven to their utmost capacity, and, taken together, they can, and do, produce five-eighths of all the refined sugar made in the United States.

The glucose fraud has been so thoroughly exposed that the demand for pure sugar is now greater than ever, and

*This is the latest result of the calculations made at the Census Office, up to the present writing (December 20th, 1883, being taken from the compendium of the tenth census, Vol. II., page 998. Three official statements from the same office, which have preceded it, differed from it as follows, the substantial accuracy of each being vouched for:

ESTABL.	Capital.	Hands Males	H&M Ende Yths	Wages paid.	Material used.	Annual product.
1	700	\$62,719,399	37,878	1,800	130,108,417	179,188,685
2	800	61,200,000	37,000	1,800	121,951,209	169,157,500
3	800	61,200,000	37,000	1,800	120,085,991	177,223,112
4	800	61,200,000	37,000	1,800	120,085,991	177,223,112
5	800	59,721,140	43,000	7,500	1,400,800	17,000,000

Adding on corrections from official figures.

We await with some impatience the issue of the quarto volume of the Census on Manufactures, as these will undoubtedly give us still another version.

crease, and the tendencies of both the raw and refined sugars are upward rather than downward. There is, also, a large and constantly increasing demand for sugars for the export trade. Whether the Sorghum culture will soon, or ever, become so large as to diminish our imports, is uncertain as yet, but everything seems to indicate a prosperous future for the sugar trade.

One of the errors in the census methods was the great variety of items it included under the head of raw material. All the boxes, bales, mats and bags in which raw sugar was brought to the refineries, and all the barrels used in packing the refined sugar, were counted as a part of the cost of raw material in the manufacture. The raw sugar and molasses consumed could not have approached the amount named in the census report, \$56,423,868; for the production of refined sugar in Brooklyn, according to the census, was only 39 per cent. of the whole production of the country, and 39 per cent. of the entire amount of sugar imported into, and produced in, the United States in 1879-80 (making no account of that which entered into consumption without passing through the refineries), was only \$43,330,373.58, and yet, that year was one of extraordinary production and importation. The amount of capital invested, and the number of hands employed, were both very uncertain quantities. Larger sums than those specified in the census were invested in the very costly plant of these establishments, but the working capital cannot be estimated even by the parties themselves. The number of hands employed varies constantly. Automatic machinery is constantly being introduced, and, while the capacity of the refineries is increasing, the number of hands is stationary, or decreasing.

There are now thirteen establishments which claim to be sugar refineries, in Brooklyn and Kings county. Of these, eight are engaged in the manufacture of pure sugars, and most of them, incidentally, in the production of syrups. One or two of them make syrups a specialty. The daily production of these, at the present time, is about 2,600 tons of sugar of the different grades, or 768,000 tons annually. Their capacity for the production of a much larger quantity is certain, but how great that capacity may be, depends on several particulars: the quality of sugar most in demand at a given time, as hard or soft, of high or low grade; the soft sugars and those of low grade admitting of a much larger production than the hard and finer sugars; the active demand at an advancing price, and the facility for obtaining the raw sugars in the quantities needed. It may be said with safety, that, if all the circumstances were favorable, the present facilities would permit of the annual production of not less than 1,250,000 tons of refined sugar, and a large quantity of syrup. This means a production of over \$100,000,000.

Aside from these, there are one, and possibly two, houses which manufacture sugars and syrups, largely adulterated with glucose, and perhaps, also, with some chemicals to improve the color. We know the production of these sugars and syrups to be of very considerable amount, but have been unable, of course, to obtain any figures. There are also three or four houses which make a pure, but low grade sugar, by boiling down molasses, filtering and crystallizing. Their products find a ready market in some of the Southern and Southwestern States. It may be safely estimated, then, that the present actual production of sugars and syrups of all sorts (including the glucose and the molasses sugars), is between 75 and 80 million dollars, and the possible production, under the most favorable circumstances with the present facilities, is not less than \$112,000,000. Mr. T. A. Havemeyer is our authority for the statement, which he had carefully verified, that Brooklyn produces five-eighths of the entire production of sugars and syrups in the United States.

The refiners who produce honest sugars, not adulterated with glucose, white clay or any other substance, are justly indignant at the frauds of the adulterators. They claim that their sugars, when refined, contain the hard sugars, one hundred per cent. of pure *sucrose* or cane-sugar, and the soft sugars, from which the entire moisture has not been evaporated, ninety-nine per cent. of pure sugar, the one per cent. being water in combination.

The raw sugars brought hither for refinery, come from many countries, and are the product of many different plants, fruits, stalks and tubers. That which largely predominates is produced from the different species of the sugar-cane. We receive raw sugars from Louisiana, Mississippi and Texas; and a somewhat richer article from the sugar-canes of Mexico and Central America, Cuba, Jamaica and other West India Islands, and from Demerara, Venezuela, Guiana and Brazil; the excellent raw sugars of the Hawaiian islands; the luscious sweets of the canes of Java, Sumatra, Borneo, the Malayan peninsula, the Philippine Islands, India and China; date sugar and some sugar cane from African ports; beet sugar from central and southern Europe; sorghum and imphee sugars from the west, and from China and farther India; the product of the sugar yam from Africa, and in small quantities, sugar from cornstalks, from the sap of the maple, and even the watermelon. These all produce *sucrose* or cane-sugar, while the glucose is made by treating starch from maize, acorns, the cereals and potatoes with sulphuric acid.

We cannot go into the details of the processes, by which these crude and often very dirty masses of sugar are changed into the pure snowy white masses, sent forth daily, in quantities of many hundreds of tons, from the wharves and docks of Brooklyn.

Of the manufacturers engaged in this business, the great house of *Havemeyers and Elder*, dating from 1857, though not the oldest, is very much the largest, having with its new refinery and filtering house just completed,* a capacity for the production of 1,250,000 pounds of sugar daily; while the house of DeCastro and Donner, in which it has a controlling interest, can produce in its extensive and well arranged refineries, 1,200,000 pounds more, daily; an aggregate of 2,450,000

In addition to these great buildings named, Mr. Havemeyer controls the refinery yet bearing the name of DeCastro & Donner, at the foot of South Ninth street and the establishment at the foot of North Third street. The latter building covers a large block, and the South Ninth street structure is also of giant proportions.

pounds of sugar a day=1,225 tons, or about 10,000 barrels—and with the constant demand for refined sugars, both for export and for home consumption, both refineries are running nearly up to their capacity. The Havemeyers and Elder refinery is said to be the largest in the world, and the two turn out about one-half of the refined sugar made in this country.

The Other Brooklyn Refineries.—Next in extent to these two great refineries, is that of the *Brooklyn Sugar Refining Company*, an incorporated company, which has, for many years, produced excellent sugars and syrups. Its capacity is about 600,000 pounds of sugar per day. *Moller, Sierck and Co.*, an excellent house, whose sugars are of the very highest quality, and command from $\frac{1}{4}$ to $\frac{1}{2}$ a cent per pound more than any others, follow, with a capacity of about 450,000 pounds a day. *Dick & Meyer*, 450,000 pounds, and *Thomas Oenard*, the *Fulton Sugar Refinery*, and *Charles Havemeyer's*, in Greenpoint, are, perhaps, next in order. All these houses make syrups, rather as an incidental product, than as a specialty. *John Mollenhauer*, on the contrary, makes syrups his specialty, but produces a considerable quantity of sugars, mostly, we believe, by the centrifugal process. The *Atlantic Sugar House*, *Crab & Wilson*, and *James Burns*, are engaged in the manufacture of good, low-grade sugars from molasses, and also prepare the residuum for a variety of uses. Of *Burger, Hurlbut & Livingston*, or the *Livingston Sugar Refinery*, we have little definite information. They are reputed to manufacture the so-called "grape sugars," and are doing a large business.

WILLIAM DICK.—A great portion of the manufacturing interests of Brooklyn are located north and east of the Wallabout, while the immense sugar refineries, the largest in the country, all centre in that part of the city along the river.

Among these vast establishments, whose buildings rise to lofty heights, cover large areas, and furnish employment to hundreds of workmen, is the refinery of *Dick & Meyer*, situated on the river front, at the foot of North Seventh street. The senior partner, Mr. William Dick, was born in Hanover, Germany, in 1823. He received the thorough education afforded by the schools of that country. He remained with his parents as long as they lived, but, after their death, came to America in 1845, whither a brother had preceded him. He landed in New York without wealth, with health, intelligence, energy and habits of industry and frugality. The first business into which he entered was keeping a small grocery, in connection with his brother; afterwards, with a brother-in-law, he opened a flour and feed store, in which they remained for several years. Having by this time accumulated some capital, for which he sought a more lucrative investment, he decided, after consideration, to engage in sugar refining with a partner who had had some experience. They began in 1858, at the corner of Pike and Cherry streets, in New York, but as their business grew, they felt the need of more room. Accordingly, they erected a large brick building in 1863, at the foot of Division avenue, and abutting on the East river, thus securing the best facilities for water transportation. The business of the firm, now *Dick & Meyer*, has made a wonderful

growth; the capital invested has reached \$1,500,000, while the annual product of the refinery reaches 355,000 barrels—about 100,000,000 lbs. refined sugar. The management of this vast interest is almost wholly in the hands of Mr. Dick, a position for which he is especially well fitted, by reason of his intelligence, business sagacity and capacity for work.

But Mr. Dick is not merely the man of business; he is also the scholar and the public-minded citizen. He has been a close reader of history and literature, as well as a careful observer of the events of the day. The man whose ability, integrity and force have revealed themselves to his fellow-citizens, through a long business career in their midst, is always sought by them to fill positions of trust and responsibility. Mr. Dick is no exception. He is connected as trustee with the *Manufacturers' National Bank*, the *Charitable Hospital*, the *Third Street Dispensary*, and, as treasurer, with the *German Lutheran Hospital* of East New York. When the prospects of the *German Savings Bank* were dark, an appeal was made to him to lend his assistance and assume its management. Accepting the Presidency, he restored credit and confidence, placed the institution on a firm footing, and, at the end of the second year, left it prosperous, resigning his office only on account of the fast increasing demands of his own business upon him. A handsomely engrossed testimonial from the Savings Bank authorities attest the esteem in which Mr. Dick is held by them. Kind and philanthropic by nature, his interest in worthy charities is active, and his contributions numerous; while he is a warm supporter of the Lutheran Church and its institutions.

Retired and domestic in his tastes and habits, he shrinks from, rather than seeks, publicity. With this disposition, he is content to discharge the citizen's duty at the ballot-box, without seeking political preferment; though his modesty cannot conceal the fact that he is one of the leading influential men in the Eastern District, and so recognized everywhere. He is respected for his intrinsic worth as a man, and beloved by those who have received his benefactions. He enjoys the comforts of an elegant home with the wife of his youth. They do their part in society, and their house is frequently opened to their large circle of friends.

Mr. Dick has already attained to a great degree of usefulness; but with every year his business relations, his charities and his influence expand, so that the future alone can reveal to what he may yet come.

SECTION III.

Relative Importance of Different Manufactures.

The importance of each industry is not to be judged by the aggregate production of all the establishments, but by the individual product. In reviewing the different classes of manufactures conducted in the county, we cannot be guided entirely by the magnitude of the annual product. This may be the result of the aggregation of the products of a very large number of producers, or it may be, as in the sugar refining industry, the result of the immense production of a very few manufacturers of large capital and ample appliances. In the sugar refining business, the product averages, according to the census returns, \$5,430,000 to each refining company, and the material used is reported as \$5,130,000. On the other hand, the bread, crackers, and other bakery products, which amount in the aggregate to \$5,594,975, are pro-



duced in 532 establishments, so that the average to each establishment is only \$10,510. Still smaller is the average product in the case of the boot and shoe manufactures, where, though the aggregate annual product is \$1,819,993, it is divided among 546 establishments, giving an average product of only \$3,333 to each manufacturer. There are instances, indeed, where the average annual product is less than \$2,000, but these are rather mechanical employments, like watch and clock repairing, mechanical dentistry, etc., etc., than manufacturing in the ordinary sense.

SECTION IV.

Petroleum Refining.

The vast business of refining petroleum oils, though conducted and owned mainly by Brooklyn men, is carried on on both sides of Newtown Creek, the boundary line between Kings and Queens counties. That part of it usually regarded as belonging to Kings county, reported in the census of 1880, 18 refineries, employing \$2,675,000 of capital, and 2,302 hands; paying \$974,036 in wages; using \$12,643,724 of raw materials, and yielding an annual product of \$15,115,293. Since 1880, the consumption of petroleum oils for purposes of illumination, lubrication, heating, and as a fuel for marine, locomotive, and stationary engines, has vastly increased, and the export demand for the refined products of petroleum is growing at a rapid rate.

Before petroleum oil, as the product of oil wells, was known in this country, "coal" or "rock oil" was distilled from some of the fatty coals and bituminous shales of Kentucky, Ohio and Illinois, and perhaps quite as extensively, from a shale, rich in bitumen, brought to New York from Nova Scotia. Mr. J. M. Stearns states that the late Dr. Abraham Gessner, who was, some twenty-five or thirty years ago, an eminent practical chemist here, had, from 1855 to 1860, a distillery, for producing this oil from the Nova Scotia shales, located near Dutch Kills, on the north bank of Newtown Creek. The price of the coal oil was high, and the business was profitable for several years, though the processes adopted were not economical.

The gases generated in the distillation, were conducted into a large iron tube, and instead of being utilized, were burned at the point of contact with the atmospheric air, that they might not contaminate the air, in the neighborhood. This immense flame at night illumined the creek and the surrounding landscape. The discovery of petroleum, and its rapid development in 1859-62, made the distillation of coal or rock oil unprofitable, and Dr. Gessner was finally reduced to bankruptcy, and eventually died in poverty.

"There were, just before the change from coal oil to petroleum, two camphene distilleries in the Eastern District, *Engel's* at the foot of South Second street,

and *Bumby's* at the foot of South Fourth street. After the change, camphene was distilled from petroleum, and one of these firms had a storage shed on the block between South Third and South Fourth streets and the East River, in which was stored 12,000 barrels of crude petroleum. It was during a storm, laden with this inflammable material, a heavy fog, and took fire, and very soon communicated to the storage sheds. The whole East River, from pier to pier, and their contents flowed into the East River, and for a mile in extent, the flames kept burning, and in flames. The ships of war along the front of the Eastern District, were in great peril, but not in danger; but the pier, where the fire originated, was burned. In about an hour and a half the fiery river had burned itself out, and there were only the smoldering remains of the petroleum barrels and sheds, and what might easily have become one of the greatest conflagrations of the century. This happened had been repeated several times since on both the East and North Rivers, notably, during the present year (1883). One beneficial result of this fire was, that very little petroleum has since been stored in barrels. It is now mostly stored in iron tanks, and conveyed by pipes underground from the oil regions to the refineries."

The *Standard Oil Company*, which has refineries and storage tanks on both sides of Newtown Creek, in Kings and Queens counties, and also at Bayonne, N. J., Buffalo, Cleveland, Pittsburgh, Titusville, Oil City, etc., etc., is by far the largest holder of petroleum oils and products in the country. Most of the other refining companies purchase their crude or partially refined oils of this company, which, by its vast capital and extensive operations, controls the entire petroleum trade.

There are in Brooklyn about 21 companies engaged in the production of petroleum products; possibly, including the very smallest, 25 companies. Several of these buy the partially refined oils, and passing them or more stills, still further refine them for domestic uses. While the Standard Oil Company is the largest seller of both crude and partly refined petroleum; *Charles Pratt & Co.*, the *Devoe Manufacturing Co.*, the *Empire Refining Co.*, and some others, also sell partly refined oils to the smaller manufacturers.

In general, it may be said that all the companies purchase their crude oil of the Standard Oil Company; perhaps not always willingly, but because its extraordinary facilities for bringing the oils to market, and its control over the whole production of the country, enable it to supply them at better terms than they can obtain elsewhere. During the past season, the single company which had stood its ground, and whose production enabled it to be a formidable rival, for several years—the Tide Water Pipe Line,—found its advantage, in so far as pooling its receipts, as to become an ally, if not a partner, of the

Standard Oil Company, and the smaller companies which had received their supplies from it, are, one after another, falling into line.

It is very common, when a great manufacturing or commercial house, by dint of energy, enterprise, and the judicious investment of its means, has attained to a superiority over other houses in the same line of business, to such an extent as to make them, willingly or unwillingly, tributary to its further success, to raise the cry of "monopoly" against it, and thus seek to rouse the opposition of the interested and the unthinking. While mankind are constituted as they are, this cry will be almost invariably raised against successful business men. Sometimes, it is true, the tyranny and grasping disposition of these business kings, may justify a part of what is said against them; but oftener, the foulest and meanest charges which are made originate entirely in the envious brains of those who have failed in the strife of business, and who, if they had been successful, would have been far greater tyrants and oppressors than those whom they condemn.

The Standard Oil Company needs no defence at our hands; but a very small proportion of its vast business is conducted within the bounds of Kings county; its immense reservoirs, tanks and refineries elsewhere are out of our limits; but we may be permitted to say, that so far as we have been able to observe, its superiority is due to the wonderful energy, enterprise, and business ability of its managers. Commencing at a time when the petroleum production and market were at their lowest ebb, they had the sagacity and courage to foresee for it an eventual and wonderful success. While hundreds were failing, they held on and held out, and when the tide changed, and the export demand became large, they were ready for it. They saw their great opportunity, and embraced it; and to-day it is almost wholly due to their exertions that our petroleum exports have risen in about fifteen years from nothing to more than forty million dollars a year, and that refined petroleum of the best quality is sold at a price which is within the reach of even the poorest. Of course this has not been accomplished without exciting the envy and hostility of many; and unthinking parties, ready to believe the worst of their fellow men, have aided to spread the most malicious and unfounded reports, when they neither knew its business nor its managers. It may have committed some errors, possibly some minor wrongs; most great corporations do; but that the noble-hearted and high-minded Christian gentlemen who are at the head of that great company have, knowingly or wilfully, attempted to oppress or crush others, because they had the power to do so, we do not believe.

Among the companies which are most largely engaged in refining petroleum in Brooklyn, two, Charles Pratt & Co. and the Devoe Manufacturing Co., are

much the largest. Mr. Pratt and Mr. Devoe were both originally members of the great firm of Reynolds, Devoe & Pratt, manufacturers of and dealers in paints, etc., but left it in 1867 to engage in the refining of petroleum. At that time most of the "kerosene" on the market was highly inflammable and dangerous. Fires and deaths from its use were constantly occurring. So late as 1869, out of 636 samples obtained in New York and Brooklyn, from respectable dealers, there were only 21, not quite one in 30, whose flashing point was above 100° F. Both Mr. Pratt and Mr. Devoe determined to produce an article which should be free from danger, and while the Legislature had fixed the minimum fire test of 100° F., below which it should be a misdemeanor to sell kerosene, Mr. Pratt, and, we believe, Mr. Devoe also, fixed a fire test about forty degrees higher as the lowest point consistent with complete safety. Mr. Pratt affixed to his product the name of "Pratt's Astral Oil," while Mr. Devoe gave his the name of "Devoe's Brilliant Oil." By great exertions in making the merits of their respective oils known, both built up an immense business. "Pratt's Astral Oil" has become a household word, throughout our own country, and is very largely sold in foreign countries. After some years Mr. Devoe sold his interest to the Devoe Manufacturing Company, and returned to his former business as a manufacturer and dealer in paints and oils. Mr. Pratt constantly enlarged his business, adding to it manufactories of tools, cans, petroleum barrels and tanks, etc., and taking in partners, as his extended trade required. He also formed a company called the Pratt Manufacturing Company, to manufacture the sulphuric acids and other chemicals used in refining petroleum, both for his own company and for the Standard Oil Company, of which he is a director. Of late years, the demand for his "Astral Oil" abroad has compelled him to engage largely in the export trade. Most of the oil shipped to foreign ports is sent in what are called cases, each wooden case containing two five-gallon tin cans, so packed as to be fire and water proof, and also secured against leakage, and at the same time, when the case is opened, the cans can be used or emptied by the retailer without inconvenience. For the home trade, it is sold either in petroleum barrels, so prepared as to be proof against leakage, or in one and two-gallon cans, provided with a spout and cap, which are largely used by families. Sometimes, for stores, etc., the five-gallon cans are used.

The firm of Charles Pratt & Co. are deserving of high commendation for their solicitous care to send out no oil which was not above the point of perfect safety, and for the precautions they have always insisted upon in the use of the Astral Oil. They are now refining it to a yet higher test, and it is a well ascertained fact that their Astral Oil *will not explode*. They manufacture, for gas machines, gasoline; a naphtha of special grade and quality for street lighting in small

cities and towns; a benzine, of 62° quality, for manufacturers' use; a naphtha of 70° gravity, and a deodorized naphtha of 76° gravity, for vapor stoves, lamps, &c. All these are put up so carefully, and with such precautions, as to insure them against accident.

The *Deer Manufacturing Company* have been less active in supplying the home market, though their oil is of excellent quality, but have turned their attention mainly, of late years, to the export trade, in which they are, we believe, the largest exporters of refined petroleum in the United States, their out-put, in a single day, in the busy season, amounting to 60,000 five-gallon cans, or 30,000 cases. The annual amount, of course, depends upon the price of refined oils and the foreign demand, which last, however, is constantly increasing, in spite of the great discoveries of oil recently made in Germany, Russia and the Caucasus.

The other oil refineries in Brooklyn and Kings county are: *Bush & Denslow Mfg Co.*, the *Greenpoint Oil Works*, the *Brooklyn Refinery*, the *Eagle Oil Works*, *Franklin Oil Works*, the *Chesebrough Mfg Company*, (vaseline and petroleum jellies), *James Donald & Co.*, *G. F. Gregory*, *Jenney & Son*, *Wilson & Anderson*, *McGoey & King*, the *Empire Refining Company*, *Sone & Fleming*, the *Hudson Oil Works*, the *Kings County Oil Works*, the *New York Kerosene Gas-Light Company*, the *Vesta Oil Works* and the *Washington Oil Works*, and perhaps four or five individual refiners. A few of these do not report, but we have full returns from twelve of the largest, and those not heard from can hardly increase the following returns (which are for 1883) by more than 10 or 12 per cent. The capital invested in the business by these twelve companies is about \$7,200,000.

The greatest number of hands employed at any one time during the year was about 3,000.

Average day's wages for a *skilled workman*, by day, \$2.50; by night, \$2.66; for an *ordinary laborer*, by day, \$1.55; by night, \$1.70; for a *cooper*, \$2.50; for a *tinsmith*, \$2.10. Total amount of wages paid during the year, about \$1,500,000.

Gallons of crude petroleum used during the year, about 210,000,000. Value, from \$7,200,000 to \$9,600,000 (at average prices of 1883, the latter sum would be nearest the truth.)

Tons of anthracite coal used during the year, including pea and dust coal, about 84,000; value, about \$210,000. Number of tons of sulphuric acid used during the year, about 18,000. Number of tons of caustic soda, about 360. Number of barrels used, about 2,400,000; value, about \$3,000,000. Number of tin cans made, about 19,200,000; value, about \$1,800,000. Gallons of total product of kerosene exported to foreign countries in cans, about 15,000,000. Number of boilers, for steam, about 54. Number of boilers, not for steam, about 48. Horse-power used, about 4,200. Annual out-put can only be roughly estimated from

the fluctuating price of the oil, but can hardly fall below \$21,000,000.

Adding to this 40 per cent for the transportation companies, and we have a grand aggregate of \$29,400,000.

SECTION IV.—ILLUMINATING GAS.

The production of illuminating gas is a large industry in Kings county. There were, in 1880, eight gas works in the county, reporting a capital (partly nominal) of \$9,190,000, and employing in all 4,000 men, paying wages to the amount of \$163,019, using \$445,605 of raw material, and producing annually illuminating gas to the amount of \$1,835,068. The introduction of the so-called "Water Gas" (which owes its illuminating properties in part to its combination with naphtha and other petroleum products) within the past two years has probably somewhat diminished the amount of the production of the other illuminating gas companies. Their business has also been somewhat diminished by the increasing use of kerosene as a means of illumination, and by the introduction into large stores and public buildings, halls, &c., of the electric light. The probable substitution of a cheaper gas for heating and culinary purposes, where less illumination is required, will, in the course of two or three years, perhaps, supply present deficiencies.

Since the spring of 1883, the eight gas companies of Brooklyn have been reduced by consolidation or the purchase of a controlling portion of their stock by the Fulton Municipal Gas Company, which produces the so-called water gas. The independent companies are the Fulton Municipal, the Nassau and the Brooklyn gas companies. It is said that the Brooklyn has made some arrangement with the Fulton Municipal, by which they are no longer in opposition. It is generally believed that the Standard Oil Company backs the Fulton Municipal. It is certain that it furnishes it with naphtha. The production of the gas companies is certainly less than in 1880, but does not, we judge, fall below \$1,550,000. They are making strenuous efforts to supply gas for heating purposes, but, as they have not reduced the price per thousand feet, for this use, and heating by steam pipes laid in the streets is pending, they have not as yet met with quite the success they anticipated.

Gas-Light Companies.—Mr. Joseph Sprague has left in his manuscript autobiography the following account of the inception of

The Brooklyn Gas-Light Company.—"In July, 1825, John Spooner and myself, being persuaded, several times by the *Long Island Star*, of the expediency of the formation of a Legislature for the purpose of incorporating a company to supply a capital of \$100,000 for the purpose of building houses, dwellings, and manufacturing establishments, and only to create a light company. It was decided to proceed, and the demand was made on the Legislature for a charter, which I did, and the act was passed, April 21, 1825, that is now giving light to Brooklyn. The charter

was amusing to witness the infatuated dignity over a worthless charter, which was to them a rich placer of gold. Committees were put in motion, lots bought for gas-works, plans and estimates examined. I then moved that the money paid in be refunded, and all operations be discontinued until the increase of Brooklyn should afford a reasonable prospect of supporting a gas company, which suggestion was adopted, and the money returned with interest."

The directors named in the act were Robert Carter, Adrian H. Van Bokkelen, Joseph Sprague, William Furman, Jehiel Jagger, Joseph G. Swift, Alden Spooner, Fanning C. Tucker, and Richard V. W. Thorn. Twelve years later, the company was revived, and February 1, 1847, elected the following directors: Alden Spooner, Joseph Sprague, John Dikeman, Ralph Malbone, Tunis Barkeloo, Losee Van Nostrand, Fanning C. Tucker, Jehiel Jagger, William Kumbel. Their acts were legalized in 1850, and March 26, 1855, the company was authorized to increase its capital to \$1,000,000.

The gas-works were located at the foot of Hudson avenue, which location the company still retains. The 1st, 3d and 5th wards were first supplied with mains and pipes for consumers. The company now owns 80 miles of mains.

In June, 1825, Fanning C. Tucker was elected president; James B. Clark was the first secretary. The succeeding presidents have been Alden Spooner, Feb. 11, 1847, till his death, December, 1848; Robert Nichols, December, 1848, to January, 1862; Arthur W. Benson, January, 1862, to January, 1882; James H. Armington, January, 1882-4; E. Storer, Secretary, January, 1881-4.

The Citizens' Gas-Light Company (office, 130 Atlantic avenue), was incorporated October 26th, 1858, with a capital of \$1,000,000, which was afterward increased to \$1,200,000. Permission to lay mains was granted by the city in March, 1859. The company's works were erected at the corner of Smith and Fifth streets. The presidents of the company have been: John H. Smith, H. P. Libby, J. H. Stebbins, and the present president, Samuel E. Howard.

The other officers for 1883-4 are: Jacob I. Bergen, treasurer; Samuel F. Tudor, secretary.

The People's Gas-Light Company (offices, 419 Myrtle avenue, and 51 First street, E. D.), was organized, under the general law, in October, 1864, with Abraham Meserole, President, and a board of nine directors: Alex. McCue, Chas. J. Lowry, D. M. Talmage, Wm. Peet, H. J. Alden, Jr., Abm. Meserole, O. M. Beach, J. B. Craig, and Augustus Ivins. The capital stock at first was \$100,000. During six years no active operations were prosecuted.

In January, 1870, the company was re-organized, the capital stock increased to \$1,000,000, and William L. Husted became President; succeeded, in 1871, by Frederic Cromwell, and he, in 1873, by the present president, Edwin Ludlam. The company's works were commenced in 1867, and completed in 1870. They are located at the corner of First and South 11th streets. There are two gas-holders, and the capacity of the works is 500,000 feet daily. The present production is 400,000 feet per day. Forty men are employed at the works, and fifteen elsewhere.

This company has 43 miles of mains, and supplies the territory in the city east from Washington avenue, between DeKalb avenue, Broadway, and Kent avenue. The present directors are Edwin Ludlam, Wm. H. Husted, Wm. Marshall, Wm. Peet, H. H. Rogers, Wm. Rockefeller, Benj. Brewster, Geo. N. Curtis, H. R. Bishop. The officers for 1883-4 are Edwin Ludlam, President; Wm. Peet, Vice President; S. J. Edwards, Secretary.

The Nassau Gas-Light Company (office 959 Fulton street), was organized, under the general manufacturing law, November 1, 1870, with a paid-up capital of \$1,000,000. The first directors were Henry P. Morgan, Edward D. White, John J. Studwell, Edwin Beers, Charles J. Lowry. At present, as above, adding S. Warren Sneden. Henry B. Morgan, the present President, was chosen to that position at the organization of the company.

The works, near Washington avenue bridge, on Wallabout bay, were completed in 1873. There are two gas-holders, and the works have a daily capacity of 1,000,000 feet. The yearly consumption of gas from these works is 135,000,000 feet, and the amount of coal used is 13,000 tons. The district supplied by this company is bounded by Washington avenue on the west, DeKalb avenue and Broadway on the north, and the city boundary on the south. Fifty men are employed at the works, and about the same number elsewhere. The company has 67 miles of street mains. The number of consumers is about 6,000. The officers of the company, 1883-4, are: H. P. Morgan, President; S. T. White, Secretary; Frederick S. Benson, Engineer.

The Metropolitan Gas-Light Company (office, 563 Atlantic avenue), was organized February, 1871, under the General Manufacturing Act, with a capital of \$1,000,000. It commenced business in January, 1872, and its works, on Gowanus canal, at the foot of Twelfth street, were erected in 1873. They have a capacity of 500,000 feet daily. Coal gas is manufactured, and in the manufacture, distribution, etc., of this gas, 58 men are employed. The company has 47 miles of street mains.

Hon. Alexander McCue was the first president of the company. The second and present president is John Williams. The other officers for 1883-4 are H. H. Rogers, vice-president; C. H. Stoddard, secretary and treasurer. The first board of directors were William C. Kingsley, A. McCue, Edward Harvey, A. F. Campbell, S. L. Keeney, Edgar M. Cullen and A. Ammerman. The names of the present board are: H. R. Bishop, H. Beam, J. C. Bergen, Benjamin Brewster, A. F. Campbell, A. C. Keeney, John P. Kennedy, Wm. C. Kingsley, A. McCue, Wm. Rockefeller, H. H. Rogers, John Williams and Chas. H. Stoddard.

The company owns 47 miles of mains, laid in the district bounded by Gowanus canal and Nevins street, Atlantic avenue and Flatbush avenue, to city line, to and inclusive of New Utrecht.

Fulton Municipal Gas Company (office, 342 Fulton street), was organized, under the general law, in 1879, with a capital of \$1,500,000, which, in 1881, was reduced to \$1,217,700. The company consisted of seven corporators. Henry M. Benedict has been president since its organization, and Gen. Jas. Jourdan is the vice-president. Walter K. Rossiter is secretary and treasurer.

The works of the company were erected in 1879, on the corner of Nevins and DeGraw streets. There are three gas holders, and the works have a capacity of 1,000,000 feet per day. Twenty-five men are employed at the works, and about the same number elsewhere. What is known as water gas, of a high illuminating power, is manufactured at this establishment.

The first board of directors of this company were James N. Smith, Wm. Foster, Jr., Wm. Schwarzwaelder, Geo. H. Roberts, Frank F. Jones, P. P. Dickinson and Henry S. Bennett. The present board are Wm. Rockefeller, Benjamin Brewster, Henry H. Rogers, Heber R. Bishop, James Jourdan, Henry M. Benedict and E. C. Benedict.

The company owns about 60 miles of mains, supplying gas to the section of the city west of Broadway.

SECTION V.

Meat Slaughtering.

This industry, though not, as in Chicago, the leading manufacture, ranks about fifth in our industries, and only New York and Jersey City, among our Eastern cities, give a larger annual product. The census of 1880 reports 28 establishments, not including the retail butcher establishments, having an aggregate capital of \$1,125,000; employing 260 hands; paying out \$194,568 in wages annually; using \$7,340,450 of materials, and producing annually \$8,010,492. There is reason to believe that these statistics, with some abatement for the amount of material used, and a little advance in the value of the annual product, represent, pretty nearly, the present condition of this industry at the present time. The considerable advance in the price of all meat products since 1880, would, perhaps, make the value of the annual product in 1883 not less than nine million dollars; but, on the other hand, slaughtering, except for home consumption, is not on the increase here, and the packing of meats, except for our local markets, is falling off. This is due to several causes; not only are beeves, hogs, sheep and calves reared much more cheaply, and fattened at a lower price, in the Mississippi valley and on the Western plains, than they can possibly be here, but the extensive and complete facilities for slaughtering and meat-packing at Chicago, St. Louis, Cincinnati, Milwaukee, Louisville, Burlington, Davenport, Kansas City, Omaha, and Denver, are so greatly superior to those of any of our Eastern cities, as to discourage enterprise for the export trade. More than nine-tenths of all the hogs, and now full one-half of the beeves, and two-fifths of the mutton and lambs, which come to the New York and Brooklyn markets, are slaughtered at the West and brought here in the carcass; and of the animals slaughtered here, the greater part come from the West.

By the use of refrigerator cars and steamships, beef in sides, and even in quarters, and pork and mutton as cut meats, can be and are brought here very largely from Chicago and other western cities, and retailed at prices which leave our home slaughterers no margin of profit. The provision trade is in even a worse position. The great packing houses of the western cities, buying their cattle, sheep and hogs at first hands, and, by their admirable arrangements and economies utilizing every portion of the animal, can furnish these packed meats for export at prices which leave no margin to our packing houses, and even, in many cases, compel them to manufacture at a positive loss. Their only chance for profit, except where reckless speculation has made a corner in any of these products, and forced up the price beyond its natural average, is to put up their packed meats of so excellent quality as to obtain for them a local reputation which will command

an advanced price. The slaughter of animals here, and butchery of meats from Texas, is increasing; steamships, trade ships, or freighters, bring hogs here, though the quality is generally inferior to that of the best hogs and mutton slaughtered here; the prices are also materially less.

From Chicago and other points, while the aggregate amount of slaughtering and meat-packing has not increased materially, it has largely changed hands. The slaughtering business in Kings county is in a very great extent (almost wholly) in the hands of foreign (and) lands), in the hands of foreigners. The leading slaughterers are *Max Meyer, Isaac & Max, Isaac Isaacs, I. & J. Levy, Leopold Frank* and *H. & J. Bernstein*, for beeves, calves and hogs, and *Aaron Levy*, for sheep and lambs. Other houses do a moderate business.

In the meat-packing and provision trade, the business, which a few years ago was conducted by enterprising American packers, has passed into the hands of equally enterprising Germans; and the American houses have either withdrawn from the business, or have suffered themselves to be outdone by their competitors. The meat-packing trade here includes mess beef and pork, corned beef and pork, beef, pork and mutton; hams, pickled, smoked and dried, or otherwise cured; bacon, shoulders, sides, or middlings of pork; tongues of beeves, sheep and lambs, fresh, pickled, or smoked; lard (elsewhere a separate branch of the trade), sausages (Bologna and other), head-cheese, tenderloins of pork, pigs' feet, calves' feet, livers, tripe, &c., &c.

In some of these packed meats, the Kings county packers have no superiors; this is especially true of the beef and pork hams, the bacon, smoked and pickled tongues, Bologna sausages, head-cheese, lard, &c., &c.

The leading meat-packers and provision curers are *Figge & Brother, Herzog & Grubb, Frank & Meyer, H. Klugger, Jacob Herzog, George H. W. Meyer, D. J. Lavery*, and *J. Lockitt & Co.* Other houses do a less extensive but fair business. *Conrad Scherer* is the largest purchaser of beef fat, both for the oleomargarine and the soap and candle trades.

SECTION VI.

Foundry and Machine-Shop Products.

Under this very general and non-descriptive title the census office, in its "Compendium of the Trade of New York," has collected a great number of industries which are deserving of separate notice. This grouping and conglomerating of all sorts of trades is much to be regretted. It had refused to particularize any of the industries of Brooklyn, but did put down its goods as "Manufactures" — \$1,740,000 in value. It is obvious that they chose to put down — is obviously an afterthought. In Mr. Frothingham's first report published in the *Brooklyn Daily Eagle* (July 1, 1874),

distinct and found under the following titles: Brass castings, and castings, iron castings and finishing; iron castings—stoves, heaters and hollow ware; machinery—engines and boilers; machinery—presses; machinery—steam pumps. Of these seven industries, the number of establishments were in the above order, 25, 32, 13, 65, 12, 4, 9—160 in all; and the total product, \$8,057,838.

In the manufacturing census of twenty cities, which was published in 1882, the items had been cut down as follows: Brass castings, 18; iron castings, 30; machinery, 10; and 111 establishments, and with a total product of \$7,349,707, a reduction of annual product of \$708,131. But even this statement did not quite satisfy the census office, and in the Compendium of the Tenth Census, published in 1883, they made further changes. "Brass castings" were retained—18 establishments, and with the same product as before, but the two items of iron castings and machinery were both thrown out, and instead of them was inserted foundry and machine shop products; 121 establishments, with \$4,079,250 capital; 3,890 hands; \$2,283,934 of wages paid during the year; \$3,146,992 of materials, and \$6,984,832 annual product. Including the brass castings, the whole product had shrunk \$708,431, and the number of establishments 21. What further changes may be made in the quarto volumes, we know not, but the changes we have shown indicate, clearly enough, the unreliableness of the manufacturing statistics of the tenth census.

But the point we wish to make here, is not so much the variations in the number of establishments, or in the amount of products, as the great defect in a proper classification of these manufactures. Here, included at last, under the head of Foundry and Machine Shop Products, are nearly a dozen different industries, wholly diverse from each other, most of them using as a material, either iron, cast or wrought, steel, copper or brass, but having hardly anything else in common. Here are houses which manufacture steam engines of 1200 or 1500 horse power; others which make \$25,000 vacuum pans; others which make steam pumping engines valued at \$150,000 or \$250,000 each, or refrigerating machines worth \$130,000 to \$175,000 each, and side by side with them are little shops doing a jobbing and repairing business, whose entire annual product did not exceed \$5,000 or \$8,000. Yet all are classed as Foundry and Machine Shop Products. While we retain this general heading, though rejecting its statistics, as wholly incorrect, we deem it altogether necessary to any adequate understanding of the subject to divide it into at least nine subsections, as follows:

I.—STEAM ENGINES.

II.—BOILER, TANKS AND GASOMETERS.

III.—STEAM PUMPING ENGINES, STEAM PUMPS AND AIR COMPRESSORS.

IV.—LARGE CASTINGS, AS VACUUM PANS, CENTRIFUGAL MACHINES, REFRIGERATING MACHINES, ARCHITECTURAL CASTINGS, &c.

V.—PRESSES AND DIES, INCLUDING DRAWING AND STAMPING, BALING, PRINTING AND OTHER PRESSES.

VI.—BRASS FOUNDRIES AND BRASS CASTINGS.

VII.—WOOD-WORKING MACHINES, AND SMALL MACHINES OF ALL SORTS; NUTS, BOLTS AND RIVETS.

VIII.—ORDINARY MACHINE SHOP PRODUCTS AND REPAIRING.

IX.—WROUGHT AND CAST IRON RAILING AND FENCES, AND WIRE WORK.

In connection with this last subsection, it may be said that nearly all the larger manufactories, such as the sugar refineries, the great rope-walks, the petroleum refineries, the paper-hangings manufactories, the porcelain works, etc., etc., have each a large machine shop attached to their works, where all their machinery is repaired and many new machines made. Some of these shops employ a large force, and turn out one, two, or three hundred thousand dollars worth of work. This is reckoned in the general expenditures of the manufactories, and not, as it should be, to give a full idea of this branch of Kings county industries, with the machine shop products.

SUBSECTION I.—*Steam Engines.*

There are no *locomotive engine* works in Brooklyn or Kings county, though the Long Island Railroad machine shops repair their engines, and perhaps have built one or two. The Coney Island roads have also repairing shops for their engines, but, we believe, have never attempted to construct any.

Stationary engines are built here, and of great excellence. From 1863 to 1867, many marine engines were constructed, notably those for several of the monitors, and for ocean steamers. The Continental Iron Works, the Atlantic Steam Engine Co., and the South Brooklyn Steam Engine Co., were all largely engaged in this business, employing from 1,000 to 1,500 men each. We believe no marine engines are now built in Kings county, unless there may be one, occasionally, for a freight propeller or a tug. It should be said, however, that Messrs. White & Price advertise marine engines as their specialty. The stationary steam engines now built here are not generally of the largest class, but are of very great merit. *The Atlantic Steam Engine Co., Messrs. William Arthur & Co., Ferdinand Rochow, The South Brooklyn Steam Engine Co., Messrs. White & Price*, of Hamilton avenue, and one or two smaller houses, are now the principal steam engine builders. *The Sherrill-Roper Air Engine Co.* is building caloric engines, an improvement on the Ericsson engine, for use where a moderate power and at moderate cost is required. One establishment (105 Court street) makes a specialty of toy engines for children, which are capable of doing good work in their limited capacity.

The best, as well as the most economical and efficient steam engines made in Kings county are those of Mr. FERDINAND ROCHOW. The severe competition of the Corliss, Wright, Harris, and other large steam engines, manufactured elsewhere, with our Kings county engine builders, has led most of them to turn their attention to other machinery, where the rivalry was not so great; but Mr. Rochow, beginning, in 1870, with a very small shop, has steadily increased his business till he is now the leading builder of stationary and reversible engines in the county. He manufactures a patent compound engine, which is capable of ready adaptation to all forms of stationary engines, for hoisting, for elevators, for upright and wall engines, for driving the machinery of great manufactories, and also to reversible engines for yachts, propellers, etc. The utility of the double and triple compound principle in economizing the consumption of steam, by using it expansively, has been long recognized in the large engines, and has been very generally adopted by the users of *large* amounts of steam power. The great merit of Mr. Rochow's invention is that, by an ingenious adaptation of the principle, and a new and simpler arrangement of all the parts of the engine, he not only renders this economy of steam possible to the smallest users of steam, but has so far simplified the construction and operation of the engine, that any person of common intelligence can operate it, thus relieving the manufacturer from the heavy expense of employing a professed engineer. These engines can be started in any position whatever by the simple movement of the reversing valve, by giving live steam into each cylinder, and may be made to act on the compound principle by another simple movement of the same valve, or stopped by another slight movement of it; and by simple movements of this valve it can be started, stopped, reversed, and used alternately, at will, as a compound or non-compound engine. The engine is almost absolutely noiseless, does not easily get out of order, and does the same work accomplished by a non-expansive engine, while it uses only two-fifths of the steam. The present annual production of steam engines is about \$350,000, and the number of men employed about 275.

SUBSECTION II.—*Boilers, Tanks and Gasometers, Brewers' and Distillers' Machinery.*

For every steam engine there must be at least one steam boiler; for every large engine there are usually from two to five. These boilers are of very varied forms and modes of construction. It is not necessary, nor have we the space to go into a particular description of the cylinder, the cylinder flue, the return flue, the cylinder-tubular, the return-tubular, the marine, the upright, the locomotive, the fire-engine, the Root, and other sectional boilers. We believe there is no variety which is not produced by one or other of our skillful boiler makers. Some are better

for one purpose and some for another, but such being as the *South Brooklyn Steam Boiler Works, formerly McNiffe, Peter J. Dunham, & Son, William R. Taylor, Christopher Thompson, James Thompson, Charles Collins, Smith Brothers, Thomas L. McNamee, and Thomas J. Reynolds*, are equal to producing anything in the shape of a boiler which is called for.

WILLIAM R. TAYLOR.—"I have a stronger belief than the lives of many of our famous men, with their property, their labors, their struggles, and their triumphs, can like the inventions of fancy. If any man can accomplish made, Mr. William R. Taylor has a right to the name, having earned his own living since he was eight years of age and, by sheer force of will, raised himself from poverty to affluence, entirely through his own exertions.

His parents were residents of New York city at the time of his birth, in 1836. When he was five years old his father died, leaving a wife and family of young children in poor circumstances.

Mrs. Taylor was a noble woman, and well possessed more than ordinary intelligence and strength of mind. She placed the care of her little ones as a sacred trust, teaching them the principles of morality and religion, together with those of industry and economy.

As soon as her son, William R., was able to take care of himself, he did so, finding employment of various kinds in New York until he was eighteen, when he came to Brooklyn to work in a machine shop. His mother's family had been small, comprising less than a year afterwards, but this disadvantage only spurred him on to make up for his deficiency in other ways, by devoting all his odd moments to study. He speaks humorously of his struggles alone with fractions and the multiplication table in his early years. Though he commenced at the very bottom of the ladder in his trade, his ambition led him upward. He inherited too much of his mother's energy and strength of character to tamely remain in the lower ranks, and he determined to be something in the world, if strong exertions would avail. He was industrious and keenly observant, he passed up, through the various grades of work in the shop, into the counting-room until his courage and perseverance brought him the reward of a good trade, and an inexhaustible experience. Without days and years of hard labor, sometimes of discouragement, that this result was accomplished; but he had the resolution and the tenacity of purpose to win. The effort and the discipline developed the boy into a man, with a man's strength, a man's brain, and a man's ambition. After holding for some time the position of book-keeper for a large manufacturing firm, he resolved to start in business for himself, and, in 1866, with a capital of \$78, he made his venture. His business was small at first, of course; but it was well begun. Perfectly familiar with every detail of the manufacture of boilers, tanks, &c., he entered into the work with all the energy of his nature, and the fixed determination to succeed. To such an one success is certain. He was able to employ more men, and to increase his manufactures. At the present time, he has a large establishment, with, at times, 100 men employed, and an annual product valued at \$100,000 dollars, all together comprising one of the largest concerns of the kind in the city. That, combined, form so great a proportion of the city's wealth.

Mr. Taylor remarks that the main factor in business success is good credit and keeping up one's good name. His



Oliver C. Taylor

habits have never been such as to cause his creditors uneasiness, while his promptness in financial matters has been noteworthy.

Mr. Taylor is rather tall and strongly built; a fine specimen of manhood; his keen eye and alert manner indicate his characteristic quickness and energy. Though social in his tastes, he prefers home life to general society, and his favorite place in leisure hours is his own home, in the companionship of his wife and family. They are attendants upon the Church of the Christian Evangel, of which organization he has been a trustee for a number of years. Charitable or religious institutions have a cheerful supporter in Mr. Taylor. For about twenty-four years he has been a member of the Order of Odd Fellows, a Mason also for nearly twenty years, and a Knight of Honor for four or five. His first votes were cast with the Whig party; subsequent ones with the Republicans. Though mindful of his duties as a citizen, he has been too much absorbed in business to interest himself greatly in politics or to seek office. His favorite recreation is fishing, in which he delights. He indulges in the sport every summer, usually spending his vacation on Long Island.

Mr. Taylor had the assistance of a partner but a short time in his business, and has since managed all its departments for himself. He has an honest pride in the excellence of his manufactures and their high reputation.

Now, just in the prime of life, he enjoys the satisfaction of success, honestly earned, the comforts and luxuries that wealth gives, a refined home, the confidence of the business

world, and the good opinion of all, with promise of still greater achievements and usefulness and honor in time to come.

But it is not alone for steam engines that boilers are wanted; the steam and the water heating apparatus both must have boilers, and tubular boilers at that, for their effective use. The hatters especially, in their new machinery for felting, shrinking and dyeing hats, require boilers and vats in which water is raised to and above the boiling point; the petroleum refineries require boilers of a peculiar construction, as well as tanks for their oil. Then the breweries and distilleries need many and immense vats, which the boiler-makers must manufacture; and, in a somewhat similar line, there are the huge gasometers towering up heavenward, like the walls of some great Babel. For the steam and water heating, *Annin & Co., Allsop & Hugill*, and *Bates & Johnson*, furnish the boilers; for the hatters, *Bernard F. Piel*; for the petroleum refineries, *Henry Vogt & Brothers*, and we believe also *Christopher Cunningham*; for the breweries and distilleries, the *Puritan Iron Works*, *James Cornelius*, *Bernard F. Piel*, etc., etc.; for the gasome-

ters, the *Abendroth & Root Manufacturing Co.* It is hardly possible to ascertain exactly the amount of production of this subsection. It cannot be less than \$1,500,000, and taking the average of the last three years, would probably considerably exceed that amount.

SUBSECTION III.—*Steam Pumps, Water Works, Engines and Mining Pumps,*

is one of the largest of these industries. There are but seven of these manufacturers, but some of them have works of great extent, and turn out an immense product every year.

Among these steam pumps and pumping engines works, by far the largest and most complete in all their appointments are the *Henry R. Worthington Hydraulic Works* in South Brooklyn.

Established nearly forty years ago, and now occupying with its buildings a double block, 250x400 feet in extent, and several stories in height, with a plant more complete and costly than any other pump works in the United States; carrying at all times an immense stock, ranging from the smallest steam pump for hotel or factory use to the large steam pumping engines for mining or water works use, and a great variety of water meters, these vast works form a very important item in the great and manifold industries of Brooklyn.

The success of these works has been so great that an inquiry into the special characteristics of their pumps and pumping engines is in order. Mr. Worthington's pumps owe much of their superiority to two causes: the application to steam pumping machines of a modification of the duplex system which had been previously adopted in steam engines, in which, by the use of two cylinders, the capacity and power of the engine was doubled, and the consumption of fuel or steam diminished nearly or quite one-half. This adaptation of the duplex steam cylinders to the pumping of water required great ingenuity and skill, and yet was accomplished by Mr. Worthington in a way so simple and effective that there has never been any necessity for material change in the application of the principle, and but little in the details.

As applied by him, the duplex steam pump doubles (in some of his pumping engines it quadruples), the capacity of the pump, while it diminishes the size of the pumping engines, and entirely avoids the shock and noise which make direct-acting single engines so objectionable and short-lived, and which have led to the prohibition of their use by the Legislature in buildings which were occupied, wholly or in part, as dwellings. This good result was greatly aided by his peculiar steam valve motion, by which two steam pumps and steam cylinders are combined in one, and act reciprocally upon each other in opening and closing the steam valves, thus producing a complete exemption from noise or concussive action, dividing the wear and doubling the life-time of the machine.

Another improvement of great value, patented by Mr. Worthington in hydraulic elevated pumps, tank pumps, fire pumps, pressure pumps, mine pumps, and especially designed for the water supply of small cities and towns, is found in his compound steam pump, which uses the steam expansively. The steam having exerted its force, through one stroke, upon the smaller steam piston, expands upon the larger during the return stroke, and operates to drive the piston in the other direction. It is, in effect, the same thing as using a cut-off on a crank engine, only with the great advantage of uniform and steady action upon the water. It cannot be used with advantage where the steam pressure is much below fifty pounds; but, where it can be used, it is economical, requiring less than one-third as much coal as any high pressure engine to do the same work. Where the water or other fluid to be pumped is gritty, at a slight advance of cost, plungers are furnished, having external adjustable packing.

Another of Mr. Worthington's applications of the duplex principle is found in his "low service" pumps, where the plungers or water pistons are nearly, or quite, the diameter of their steam pistons. These cannot feed their own boilers, but are furnished with a side feed or plunger, driven by an arm on one piston rod for this purpose. The largest regular size of these will deliver from 1,145 to 2,065 gallons of water or oil per minute; and for railroad water stations, oil tanks and other places where fluid is to be raised to a moderate height, with ordinary steam pressure, it proves greatly superior to any of the single cylinder pumps, requiring plungers of only two-thirds the size of the single cylinders, and consuming much less fuel, while they can, in an emergency, be worked at a higher rate of speed than is possible with the single cylinder, without great noise and destructive wear.

The Worthington "Pressure" pump is another application of the duplex system, where great water pressures are to be worked against. The diameter of the water plungers is only about one-third that of its steam cylinders, and it delivers a smaller amount of fluid per minute than the preceding pump, but raises it to any required height. A modification of this, the "Compound Condensing Pressure Pump," delivers large quantities of fluid per minute while working under very heavy pressure. Both pumps are in great demand for mine pumping, and, in the oil pipe lines, for delivering at very considerable heights, and under heavy pressures, large quantities of oil.

A number of these compound engines of from 250 to 500 horse-power, are in constant use on the Oil Pipe lines, some of them being required to deliver from 15,000 to 25,000 barrels of oil per day against pressures varying from 1,000 to 1,500 pounds to the square inch. Those employed in mines are sometimes required to do their work under water, and often under very high temperature, but they never fail. Their quiet-

ness of action and freedom from concussion specially commend them to the Oil Pipe Companies, who have found the concussion of the single cylinder pumps very destructive to their lines, causing constant leakage.

The same principle is also developed with applications, varying according to the service they are to render, in the Worthington Fire Pump, the Brewery Pump, the Power Pump and the Steam Pump and Boiler for general service.

But there are three other of their pumping engines which demand a somewhat more particular notice. These are, 1st, the Worthington "Mine" Pump, patented in 1883, which embodies the results of nearly forty years' experience, and the best methods and principles of construction of all parts to accomplish the desired purpose, together with some important improvements recently patented. The plungers of this machine work through central, exterior stuffing boxes, into four separate and distinct water cylinders. These cylinders are all precisely alike, subdivided as much as possible, and having each part or attachment of the one an exact duplicate of the corresponding part or attachment of the other three. This duplication and subdivision greatly facilitates renewals or repairs, and renders it possible for only partially skilled engineers and firemen, to replace a broken part by sending to the hydraulic works, and meantime to maintain a half or three-quarter service of the pumping engine. The valve areas and water passages are unusually large, so as to decrease the velocity and consequent destructive action of the currents of the sulphurous water, often encountered in this service.

The plungers, piston rods, stuffing boxes, and the entire suction and force valve plates, are made of a metal composition, that has been found best adapted to resist this action; wherever natural wear after a time takes place, the part so worn can be readily and quickly replaced, without disturbing any adjacent part. The pumps will safely withstand a working pressure of 200 pounds to the square inch, and all their attachments are especially strengthened with a view of meeting the rough usage and hard work, to which, in this service, they are liable to be subjected.

A second pump is the only single cylinder pump regularly manufactured by the Worthington hydraulic works. It was one of Mr. Worthington's earliest pumps, and is known as the "Worthington Steam Pump for Wrecking, Drainage, and Irrigating." It has proved itself admirably adapted for the work for which it was designed. On account of its short stroke and large diameter, it is extremely efficient, running on comparatively low pressure of steam, and with a very small percentage of loss from friction or leakage. It is also, in the highest degree, simple and durable, with few parts, and scarcely any liability to derangement or breakage. It makes more noise in consequence of concussion, than the duplex pumps, but for a single cylin-

der pump, is not specially objectionable on this ground, and is used mostly when the noise is not an annoyance. The largest regular size, $19\frac{1}{2} \times 33 \times 15$, will discharge 3,200 to 3,600 gallons per minute.

3. But we hasten to consider Mr. Worthington's *chef d'œuvre*, his great Water Works Pumping Engine. Of these, up to September, 1883, he had built more than 200, of a total contract pumping capacity of nearly 800,000,000 gallons in 24 hours. The smallest of these had a pumping capacity of 333,000 in 24 hours, and from this capacity they rose to single engines of 11,000,000 in 1871, of 16,000,000 in 1873, of 15,000,000 in 1874, and of 15,000,000 in 1876, 1879, and 1880. In 1880, also, their largest engines, of 25,000,000 of gallons capacity in 24 hours each, were made for the city of Boston. In 1883, they have made two of 10,000,000 gallons each, and three for Philadelphia, of a combined capacity of 37,500,000 gallons. Over twenty engines, of 10,000,000 of gallons capacity, or more, have been manufactured, and the remainder have averaged about 4,000,000 of gallons in each 24 hours. When it is considered that some of these engines cost from \$100,000 to \$150,000 each, the magnitude of the operations of this great manufactory will be manifest.

These engines carry out, on a large scale, all the improvements which years of experience had suggested in the smaller pumps, and have many special improvements which render them equal, if not superior to, any pumping engine yet built. The ablest civil engineers in the country would hardly continue to recommend their introduction, if there was any radical defect in them.

Of all classes of the smaller duplex pumps which we have described, and there are from fifteen to thirty sizes of each, the Worthington Hydraulic Works have turned out many thousands, and they have given such general satisfaction, that they are compelled to keep up a full line of them to supply the constantly increasing demand.

They are also manufacturers of the Worthington Water Meter, which twenty-five years of experience has proved the most accurate and best adapted to its purpose of any in the market; while the sale of more than 30,000, at an average price of about \$35, sufficiently demonstrates its superiority. They also manufacture oil meters.

The statistics of this great establishment are as follows:

Founded in 1845. Occupying at first a small shed.

Present area covered by Hydraulic Works: two blocks; over 100,000 square feet.

Amount of capital invested, in round numbers, \$1,000,000.

Number of hands employed: greatest number at one time, 760.

Amount of wages paid annually, in round numbers, average of 1880, 1881, and 1882, \$450,000.

Annual product, in round numbers, say for either year ending July, 1880, 1881, 1882, 1883, \$1,500,000.

Order is the first law in the Worthington Hydraulic Works. In the tool room, each of the myriad tools has its appropriate place; and if absent, a check with the workman's number, tells who is responsible for it. In the draughting room, every drawing, of any elevation, plan, or separate portion of a machine or engine, is duplicated by a simple photographic process which a boy can manage. A Mutual Benefit Association, obtaining its funds by a deduction of ten cents a week from every man's wages, and the payment by the firm of a sum equal to the whole amount collected from the men, provides for the sick, the injured, or the families of those deceased, and being managed by the men themselves, prevents all strikes.

The Davidson Steam Pump Company, the only other house in Kings county, which manufactures steam pumping engines, is a comparatively young company, having been in existence, in its present form, only three or four years. They manufacture also many kinds of steam pumps, such as boiler feed pumps, tank pumps, marine pumps, wrecking pumps, fire pumps, brewery pumps, mining pumps, sugar-house pumps, railroad pumps, vacuum pumps, air pumps, circulating pumps, tannery pumps, and hydraulic pumps. Of most of these there are from 13 to 38 regular sizes, though not many of them are kept constantly in stock. Most of these are direct-acting single cylinder pumps, at the steam end, but differ from other direct-acting steam pumps, in having only one valve—a compound slide-valve with cylindrical face—in the steam chest. This valve is said to be very simple in construction, not liable to get out of order, become deranged, or wear out before the rest of the pump. It is oscillated by an oblique cam, and does not depend entirely upon the steam admitted to the end of the valve-piston for its action, the cam carrying the valve mechanically when the pump is under a high rate of speed. It is claimed that this valve arrangement admits of its being run at higher speed than any other direct-acting pump, and renders it perfectly noiseless. The water end of these steam pumps is also claimed to be a new and simpler design than that of any other steam pump yet constructed, and not to be liable to blow out or leak, and to be readily taken apart and put together again. The mining pumps are made with a double plunger, horizontal, and the two plungers reciprocating in the same cylinder. The company claim for these a superiority over all other mining pumps.

The water works pumping engines are made on substantially the same patterns, though some of them have duplex cylinders, both steam and water—but not with reciprocating valves. As yet, their largest pumping engine, in actual use, has a capacity of but three million gallons a day, and the greater part of them range from two to two and a half million gallons; but, with

enlarged facilities, they can probably increase their capacity to any desired extent, if the engine should prove, after thorough trial, to possess the advantages now claimed for them.

The Niagara Steam Pump Works, which manufacture the steam pumps under the patents of Charles H. and John Hardick, are, with a single exception (Worthington's), the oldest steam pump manufacturers in Kings county, and among the oldest in the United States. They acquired a high reputation, many years ago, for their Niagara Direct-Acting Pump, the first successful direct-acting steam pump in the United States, and have since increased it by their patent double acting steam pump, steam fire engines, crank pump and engine, direct-acting agitator and steam pump, their improved Niagara vacuum pump, and their direct and double acting plunger pump. All their pumps and pumping engines are distinguished for the simplicity of their construction, which permits their being run by a man of fair intelligence, though he may not have been educated as an engineer; by the perfection of all their parts; the efficiency and steadiness of their action; their ability to be run under water; their economy of fuel, and their moderate price. They have manufactured engines capable of pumping more than 2,000,000 gallons of water in 24 hours; but they have generally preferred to make steam pumps for clearing wrecks of water, for railroad tanks, breweries, distilleries, tanneries, purposes of irrigation, for pumping oil through pipes to long distances in the oil regions, for fire and wrecking steamers, and for plantation duty on sugar and cotton plantations. The firm commenced business in 1862, at 23 Adams street, as Hardick Bros. John Hardick died in 1868, and Charles B. Hardick was sole proprietor till 1874, when he also died; and the business has since been conducted, with great energy and success, as the estate of Charles B. Hardick, W. S. Hardick, another brother, being manager. In 1880, desiring a larger amount of room for their works, they purchased and removed to their present locality, 118-122 Plymouth street. The Niagara steam pumps have been exhibited, and thoroughly tested, at many Expositions in all parts of the world, and have never failed to receive the highest medals and other awards. They have now 22 medals, and twice that number of diplomas. One medal and four diplomas of superiority were awarded at the Centennial, and a medal at the Sydney, New South Wales, Exposition of 1880. (See cut on page 684).

There are four or five other manufacturers of steam pumps, but none of them, we believe, confine themselves to this manufacture exclusively. *Norman Hulbert* makes some pumps, but his workshop is to a considerable extent devoted to repairing pumps and steam engines.

Messrs. *Guild & Co.* manufacture a small quantity of beer pumps, as also pumps for the use of the sugar refineries.

William Taylor makes a variety of steam pumps, as well as some machinery for hatters, but his specialty is the Excelsior Patent Rotary Pump, for which he has created a considerable market.

James Clayton also makes steam pumps of a very good pattern, but his specialty is "Air Compressors;" machines for compressing air for use as a motor in driving rock drills and water pumps in mines and tunnels.

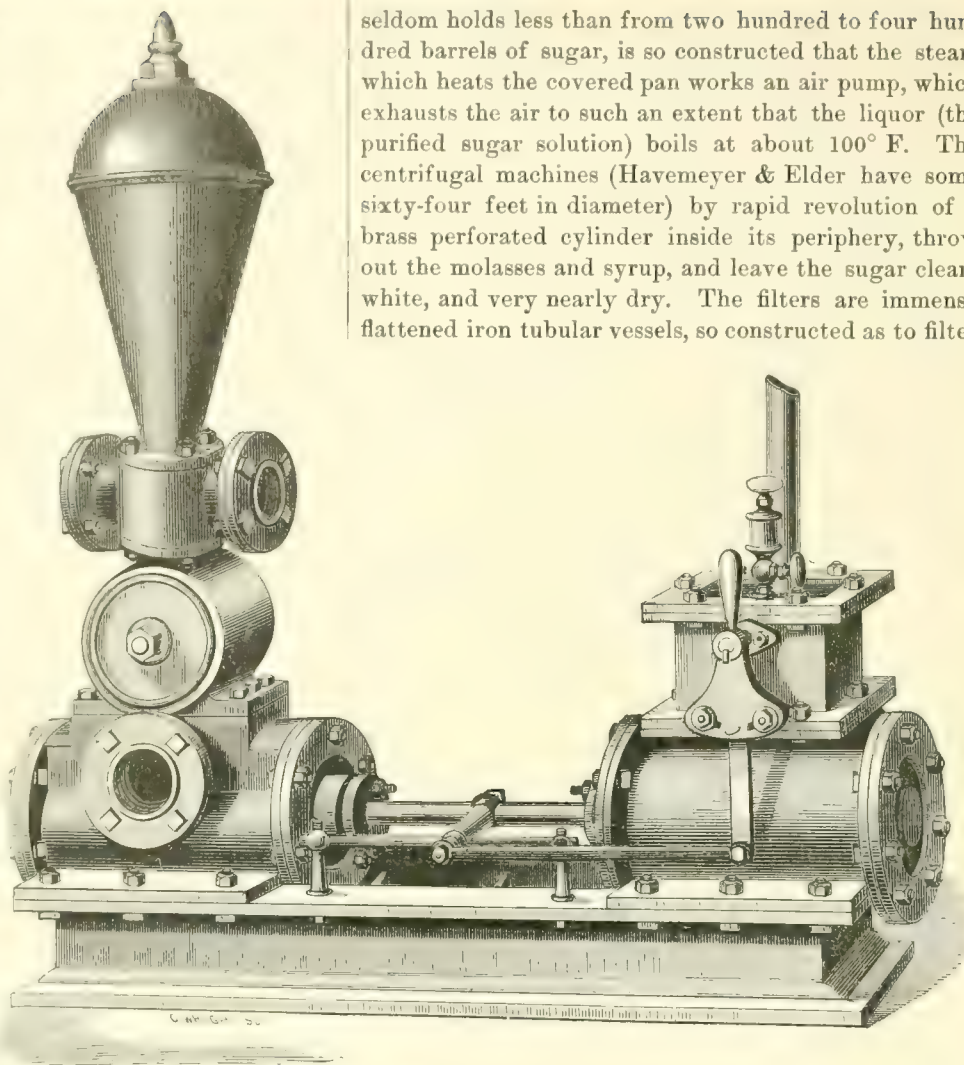
Mr. Clayton also manufactures coal cutting machines, hauling and hoisting engines, mine and other portable locomotives, etc., etc. His "Compressors" have a very high reputation in all parts of the country.

This subsection (steam pumps, etc.) represents in round numbers the employment of not less than 1,200 hands, the payment of annual wages to the amount of about \$850,000, and an annual product of about \$2,750,000.

SUBSECTION IV.—Large Castings and Finishing, both in Brass and Iron—as Vacuum Pans, Centrifugal and other Sugar House Machines, Refrigerating Machines, Architectural Castings, etc.

This subsection is very large, and embraces a considerable number of our most extensive foundries and machine shops. The manufacture of vacuum pans, centrifugal machines, and other machines for making and refining sugar, is itself a very large business. A single sugar refinery in Brooklyn has invested more than \$600,000 in vacuum pans alone, and the investment in centrifugal machines, filters, moulds, etc., etc., is probably twice that amount. The demand for much of this sugar-making and refining machinery from Louisiana and South America and the West Indies is constant, though the vacuum pans, etc., are not of such immense sizes as those used in the great refineries here. The vacuum pan, which here

seldom holds less than from two hundred to four hundred barrels of sugar, is so constructed that the steam which heats the covered pan works an air pump, which exhausts the air to such an extent that the liquor (the purified sugar solution) boils at about 100° F. The centrifugal machines (Havemeyer & Elder have some sixty-four feet in diameter) by rapid revolution of a brass perforated cylinder inside its periphery, throw out the molasses and syrup, and leave the sugar clean, white, and very nearly dry. The filters are immense flattened iron tubular vessels, so constructed as to filter



THE NIAGARA DIRECT-ACTING PUMP. (See page 683).

the dissolved raw sugars through bone-black to purify them.

The *Pioneer Iron Works* in South Brooklyn has the highest reputation and does the largest business in sugar machinery. They employ in times of active business from 800 to 1,200 men, and turn out more than \$2,000,000 worth of castings.

The *South Brooklyn Steam Engine Works* also do a considerable business in this line; and, we believe, one of the Williamsburgh foundries.

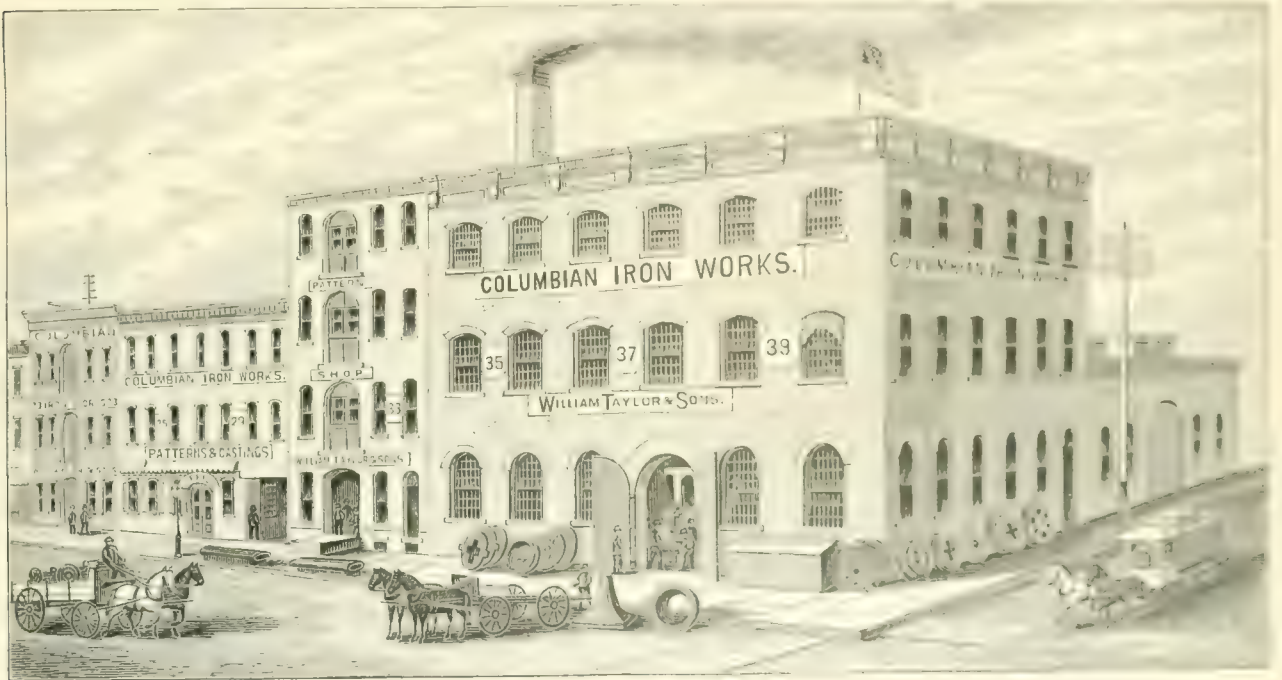
In the construction of *Hydraulic Presses* of all sorts, and especially for the expression of the oil from cotton seed and linseed, as well as in the building of *refrigerating machines*, the *Columbian Iron Works*, Messrs. William Taylor & Sons, of whose establishment we give an illustration, are easily foremost, and in the latter industry are, we believe, the only manufacturers in the county. Their extensive works, extending on both sides of Adams street, from No. 25 to No. 39, and occupying thirteen full city lots, were started in 1844 by the present senior member of the firm in Gold



William Taylor

street, near York, in a very small shop. In 1845 Mr. Taylor purchased a single lot on his present site, and erected a small foundry, to which, in the years that followed, one lot after another, and one building after another, was added, until the great foundry assumed its present proportions. There are in all seven or eight large buildings, the principal ones being three or four stories in height, and having the following dimensions, respectively: 75x52 feet, 25x52, 50x26, and 25x44. The foundry and erecting shop are in the rear, and the cleaning and storage shops on the other side of Adams street. Mr. Taylor commenced business as a founder, by casting stoop railings, fences, columns, and ornamental work for house use, but very soon began the production of fine machinery fitted and adjusted with great care. Circumstances related in his biography,

breweries, are very expensive, and that the largest, erected in a Brooklyn brewery, cost \$1,000,000, but it saved the brewer \$500,000 in the cost of fuel, and an amount of space sufficient to supply double the capacity of his brewery. These machines, so far as Brooklyn is concerned, are all made by Messrs. William Taylor and Sons. The firm was William Taylor & Sons, from 1844 to 1856; Taylor, Campbell & Co., from 1856 to 1861, the Campbell's eldest son, Mr. James A. Taylor; Mr. Campbell went out in 1861, and Mr. Taylor's second and third sons, Edwin S. and William J. Taylor, were subsequently admitted as partners. About 250 men are employed in the different shops, and the out-put averages about \$1,200,000. We introduce here portraits and biographical sketches of Messrs. William Taylor and James A. Taylor.



COLUMBIAN IRON WORKS

which we append to this article, led him to go largely into the construction of cotton-seed oil hydraulic presses, and he now supplies these to the numerous oil mills of the South, as well as to the linseed oil mills in the North and West. The strength, precision in working, and admirable finish of these presses, leave nothing to be desired.

Within a few years past a demand has sprung up among brewers, distillers, meat-packers and hotel proprietors for *refrigerating machines*, which, by what is known as the "American process," produce and maintain a very low degree of cold, and on a large scale, at less than one-fourth of the average cost of ice, while their compact form enables them to save the great space heretofore occupied by the ice, and the labor connected with the handling of that commodity. These refrigerating machines, when constructed for the large

WILLIAM TAYLOR.—The first extensive engineering firm in Brooklyn is the house of William Taylor & Sons, over the foot of Adams street, they make the largest pumps of hydraulic and refrigerating machinery in the city. The present management of these concerns is due to the ability and efforts of the senior member, Mr. William Taylor.

It is interesting to trace the career of a man who, beginning with no special knowledge of the country, rose to the position of a great industrialist, built up a small business into a great industry, thus won recognition and a financial position, and finally became one of the country's material wealth. Such a man was John D. Rockefeller, his life a lesson, and his example an incentive.

Mr. Tarrant is a native of the State of New York, and in 1852 he became a resident of this country. He has been actively engaged in the business of a merchant, and has been successful in his cultural or commercial pursuits. Accordingly, he is entitled to be admitted as a full and complete citizen.

At an early age, when he was only fourteen, his parents removed to America, leaving him behind in the hands of a master who was harsh at times. For two years he suffered cruelly, under hard treatment, longing for his kindred across the sea; then made a bold push for freedom and traversed the Atlantic. After a short visit with his parents at their home in New Jersey, he went to finish his trade as iron moulder, finding employment in Brooklyn, New York and Connecticut. His proficiency as an apprentice brought him into favorable notice, and soon after he became master of his time he was appointed foreman in Birkbeck's foundry in Brooklyn. It is worthy of mention that he worked in New York upon the car wheels for the first locomotive engine that was brought from England to America, and used in hauling coal from the mines in Pennsylvania. Mr. Taylor next had charge of a foundry in Connecticut for a time. But he possessed innate qualities that fitted him to be master as well as man, while ambition spurred him on to establish himself in business independently.

Accordingly, in March, 1844, he started in a small way, locating his foundry in the rear of a dwelling house on Gold street. His venture proved successful; his work, carefully and thoroughly done, was its own recommendation, and brought numerous orders. In the year following, he bought one lot on Adams street, where he now occupies thirteen, and built there a small foundry, which has since grown into a large, complete establishment, with moulding and machine shops attached. His earliest work consisted largely of house-castings, pillars, railings and similar work; but, in its enormous growth, has changed character, and he now makes machinery of all kinds, especially hydraulic presses for the manufacture of cotton-seed oil, in which the firm has a large and lucrative trade at the South. Some of their heaviest work was done on the Sectional Dock in 1866, and on large castings for the Navy Yard.

Increase of business brought added cares, so that Mr. Taylor in after years availed himself of the help of three sons, James A., Edwin S. and William J., admitting them into partnership with himself, under the firm name, as it now stands, of William Taylor & Sons. He also established the Magnolia Oil Works at Vicksburg, Miss., for the manufacture of cotton-seed oil, with his two sons, Hubert G. and Frank W., but the whole establishment, with machinery and stock, was burned in 1873, entailing a loss of over one hundred thousand dollars. This misfortune was the means, however, of building up a large Southern trade in oil presses and machinery, so that their losses have been more than made good.

Mr. Taylor has always been devoted to his business, giving it his whole energies and labor; how much of both is seen by comparing the firm's immense establishment with the small foundry from which it sprung, and the local trade of years ago, with the widely extended business of to-day. His integrity has been unquestioned through a long and active business life, and his commercial honor is untarnished. He has met every dollar of his obligations, principal and interest, under all circumstances; which redounds the more to his credit, and produces well-merited confidence, because assignments and compromises are so common among business men of the present day. One so strictly faithful to every engagement cannot fail to win, as Mr. Taylor has won, the perfect confidence and utmost esteem of his fellow men. He is to-day one of our most influential and public-spirited citizens, active in all public improvements. His sagacity and experience are sought in important positions of trust. He has been for some years a director of the *Lafayette Insurance Company*; in June, 1879, he was appointed a trustee of the Brook-

lyn Bridge, and served on the Finance Committee during his term of office. He has never desired or taken, when solicited, an active part in politics, although upholding the principles of the party of his choice, which was formerly the Whig, latterly the Republican. His church preferences are for the Church of England; he is a communicant and vestryman of Christ Church. Mr. Taylor has always been a close observer of men, and a careful reader of the current affairs of the day. This advantage, coupled with excellent business capacity, has made him very successful in his undertakings. The fortune that his enterprise has won is wisely used for the comfort of his family and the happiness of others.

Mr. Taylor has been blessed in his family; of twelve children born to him, eleven reached maturity, though three have since died. In an elegant home he enjoys, with his family, the reward of his persevering industry. In his social relations he is genial, kind and agreeable, with a large circle of friends sincerely attached to him, on account of his worth as a man and a citizen. He was privileged in April, 1883, to celebrate his golden wedding amid the rejoicings of children and many friends. Mrs. Taylor is one of the Stoddart family, who are old residents, and well known in Brooklyn.

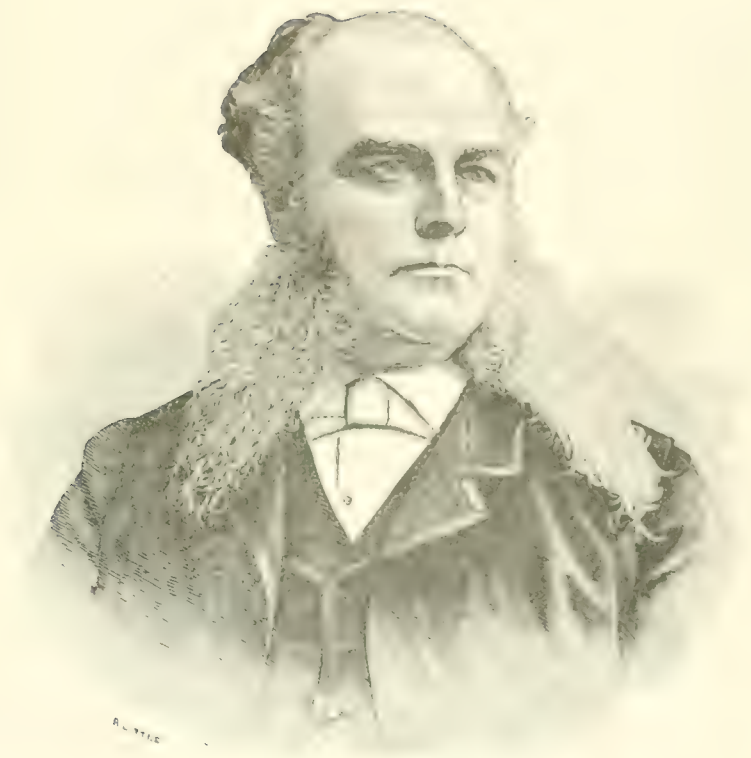
Many men of fewer years than Mr. Taylor, and smaller fortune, have retired from active business; but his energetic disposition keeps him still in his counting-room, where he bids fair to remain for many years to come.

JAMES A. TAYLOR.—This well-known gentleman—a member of the firm of William Taylor & Sons, proprietors of the Columbian Iron Works, located on Adams street—is a son of Mr. William Taylor, and the eldest of twelve children. He was born in Hicks street, Brooklyn, March 9, 1834, and educated at the Columbia Institute, long and favorably known in this city.

At the boyish age of sixteen, Mr. Taylor began to assist his father in the office of the works, and so grew into the confidence of his father, that in July, 1856, he was admitted as junior partner into the then newly-formed firm of Taylor, Campbell & Co.

In July, 1861, Mr. Campbell withdrew from the enterprise, and the firm of William Taylor & Sons was formed by the admission of Mr. Edwin S. Taylor; and later, Mr. William J. Taylor became a partner with his father and brother, the firm at this date consisting of Mr. William Taylor, and Messrs. James A., Edwin S., and William J. Taylor.

Mr. Taylor was married, December 8, 1857, to Isabel, second daughter of the late Hon. John A. Cross, of Brooklyn, a lady of high musical and artistic attainments, and a devout Christian, well-known for her unostentatious charities. Their married life has been one of the pleasantest, marred only by the death of a young daughter and an only son, a bright and promising boy of fourteen years, in whom, and for whom, they hoped much that Providence had decreed was never to be realized. Two daughters remain to them, by their presence adding to the comfort and happiness of their home. Mr. and Mrs. Taylor celebrated their "Silver Wedding," December 8, 1882. It was very largely attended by the *élite* of Brooklyn and New York, and everything conspired to render the occasion an unusually brilliant one, and long to be remembered by the many who were participants in it. Among the elegant floral decorations, which were so profuse and so costly as to excite more than a common amount of praise, a new and glistening wedding-cake stood side by side with the original wedding-cake which had been made, and one-half of it eaten, a quarter of a century before, and which was an object of much pleasant



John L. G.



Mr J Saxton

interest to every one present. All except the first two years of their married life Mr. and Mrs. Taylor have passed in their present residence, No. 106 Wilson street, which Mr. Taylor erected in 1859.

Mr. Taylor's interest in matters of national and municipal concern is such as every true and intelligent citizen must take in the public weal; but though he is an earnest Republican, politically, he is not, in the usual acceptance of the term, a politician, and has never been a seeker of any office at the hands of his fellow citizens. A few years ago he was chosen a member of the Ward Association of the 19th Ward, and, while so serving, was made chairman of the finance committee of that body. Socially, his position is an enviable one, and he is very popular with the many who have the pleasure of his acquaintance. He was one of the select few who constituted the "Windsor" Club of Brooklyn, at its organization, and is, at the present time, its President.

In his religious affiliations, Mr. Taylor is an Episcopalian. At one time he was prominent in the vestry of St. Paul's Church in the Eastern District; and for all its various interests his solicitude is deep and abiding.

If Mr. Taylor possesses a distinguishing characteristic, it is probity. In business, and in all the relations of life his conduct is dictated by a profound regard for his own word and the rights of his fellow men, and he is honored and respected alike by those with whom he mingles, socially and commercially.

ington Hydraulic Works, by James Cornelius, of the Puritan Iron Works, and by Samuel Jacques.

Architectural castings occupy many of the larger foundries. The first successful builder of iron buildings was and is a Brooklyn man—Mr. H. D. Badger, and although well stricken in years, he yet has his office with Messrs. Howell & Saxton. Among his earliest large contracts was the rebuilding, in 1853, of Messrs. Harpers' grand establishment on Franklin square and Cliff street, New York.

The term *architectural castings* includes not only iron columns, pillars and pilasters, girders, sills and lintels, but fire-escapes, sky-lights, posts and cast-iron fences, etc., etc. The leading firms in this business are *Cheney & Hewlett*, the *North Brooklyn Iron Foundry* of Messrs. *J. S. and F. Stevens*; the *Brooklyn Works* of *Jacob May*; *Lowell & How*; *Howell & Saxton* (the senior of this firm was our late Mayor); *Daniel Sullivan*, of 200 South street; *James Ritchie*, at 75 Smith street; *K. & A. Brown*, now joining 175 or three more; *Brown & Patterson*, corner of Hope and 5th streets, L. D. are the manufacturers of *cast-iron* *Ritchie*, was *architect* of the *Brooklyn* *Works*. They manufacture piano plates, grates, fenders, corner pieces and ornamental castings. *Architectural castings*

Hydraulic Presses are made also by the Worth-

of \$1,000, and an annual output of \$120,000. The number of hands employed in a busy and prosperous season in this branch of the business ranges from 1,000 to 1,200, and the annual out-put varies from \$1,200,000.

We append biographical sketch and portrait of Mr. D. Y. SAXTAN, as belonging to this branch of the foundry and machine shop industry. (See portrait on page 687).

DANIEL Y. SAXTAN is a son of Richard and Rosannah Young Saxtan, and was born December 13th, 1824 at Farmingdale, Long Island. In 1825 his parents, with their family, removed to Brooklyn, where he was educated in the public schools, as boys of his time were educated; and at the age of fourteen he was apprenticed to learn the trade of blacksmith with Rev. Timothy C. Young, who had a shop at the foot of Pearl street. After acquiring the trade, he was, for several years, a journeyman blacksmith. About 1851 he formed a partnership with Jacob Outwater for the manufacture of iron railings, and their works were located in Adams street, near Myrtle avenue.

In 1866 the firm of Howell & Saxtan was formed, the partners being ex-Mayor James Howell and Daniel Y. Saxtan, and these gentlemen established the Central Iron Works, at the corner of Hudson and Park avenues, with offices in Adams street. This firm is celebrated for the manufacture of all kinds of architectural iron work, making specialties of fronts, roofs, bridges, domes, capitals, arches, railings, stoops, door and window guards, lamp and awning posts, sky and area lights, rolling and folding shutters, and many other kinds of iron work similar in character. The reputation of this concern for fine and reliable work is well established, and the proprietors have a reputation second to that of no other firm in the city. As wire-workers, they may be considered as among those in the foremost rank, and as evidence of their facilities and ability to cope with any undertaking they assume, we may mention a few of the most prominent of the many structures for which they have erected or furnished the iron parts: The retort houses of Havemeyer & Co., in Williamsburgh; the Hanover buildings and the Wheeler buildings (now owned by Wechsler & Abrahams), in Fulton avenue; the new Municipal Building of the city of Brooklyn, the Armories of the 13th, 14th and 23d Regiments, and of that of the 47th Regiment, now in course of construction; and ex-Mayor Schroeder's building, and the Young Men's Christian Association building, in Fulton avenue.

Mr. Saxtan is a republican, but not active as a politician. In religious faith he is a Methodist, and he is a member of the Simpson Methodist-Episcopal Church. He was married September 15th, 1845, to Phebe M., daughter of Henry and Martha Watts, of Springfield, Long Island. He is most highly esteemed both in and out of business circles, and deservedly so, in view of his excellent standing in the community; and it is due, in no small degree, to his enterprise and thorough knowledge of the requirements of the trade and the processes of manufacture, that his firm takes its well-known high rank in the city. As a large employer of skilled and unskilled labor, Mr. Saxtan has long been regarded as, in all important ways, the friend of the workingman. As a self-made man he stands before the youth of Brooklyn in the light of an example of those who rise to prominence through their own exertions; and it is doing him but the barest justice to state that his success has been honestly earned.

Let us now sum up as far as possible the number of hands employed, and the total out put of this sec-

tion. We cannot estimate either very closely, because we have been unable to obtain the exact statistics of all the smaller houses, but we prefer that our estimate should be below rather than above the truth. There are certainly not less than 4,500 men employed in these foundries, and the out-put is not less in average years than \$4,700,000.

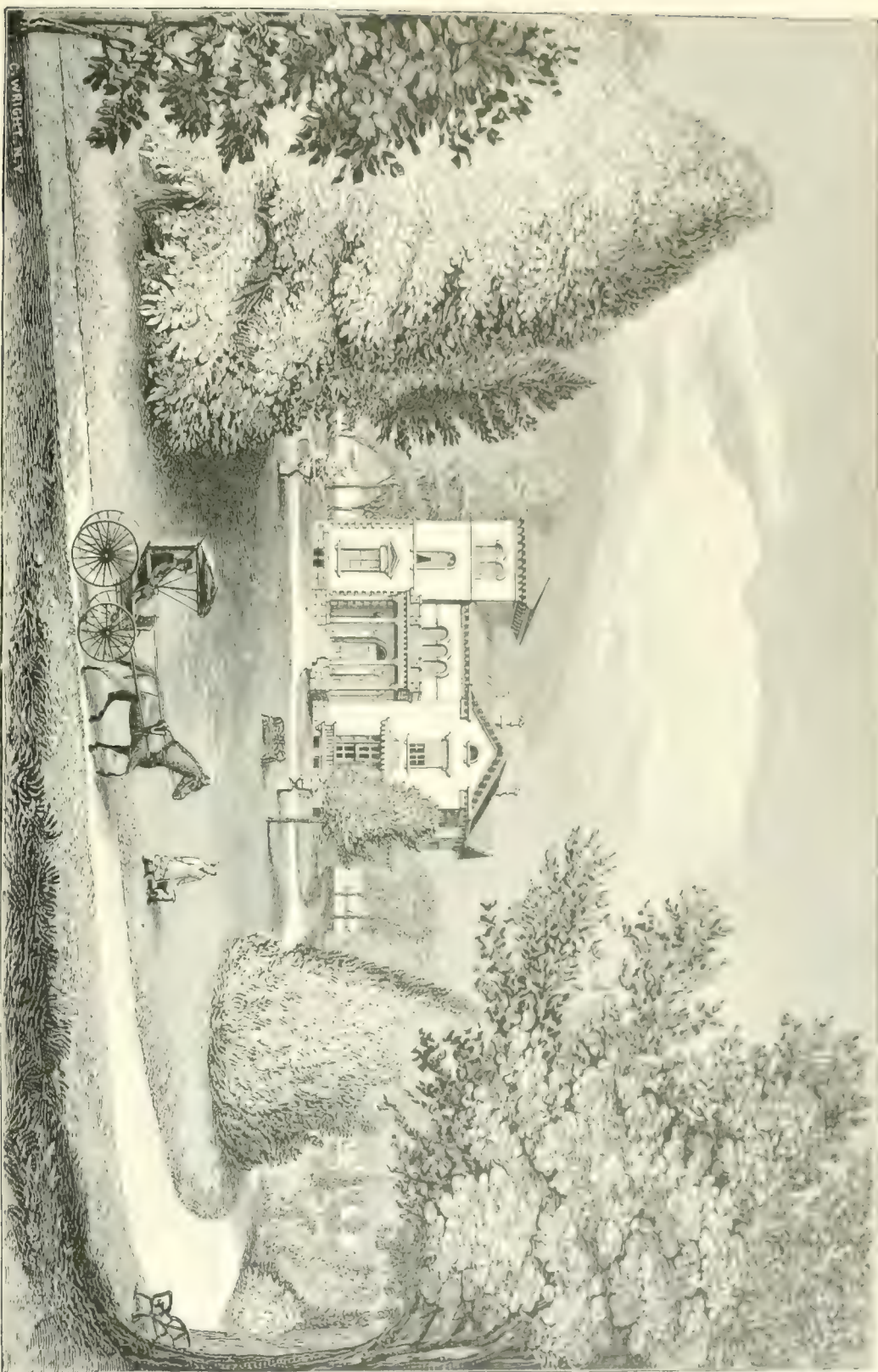
SUBSECTION V.—*Presses and Dies, including Drawing and Stamping, Baling, Printing and other Presses.*

On the opposite page we present a view of the present residence of Mr. E. W. Bliss at Bay Ridge, overlooking the Bay of New York. This elegant country seat was formerly occupied by the late Hon. Henry C. Murphy, and was by him named "Owl's Head," from the old Indian name of that locality.

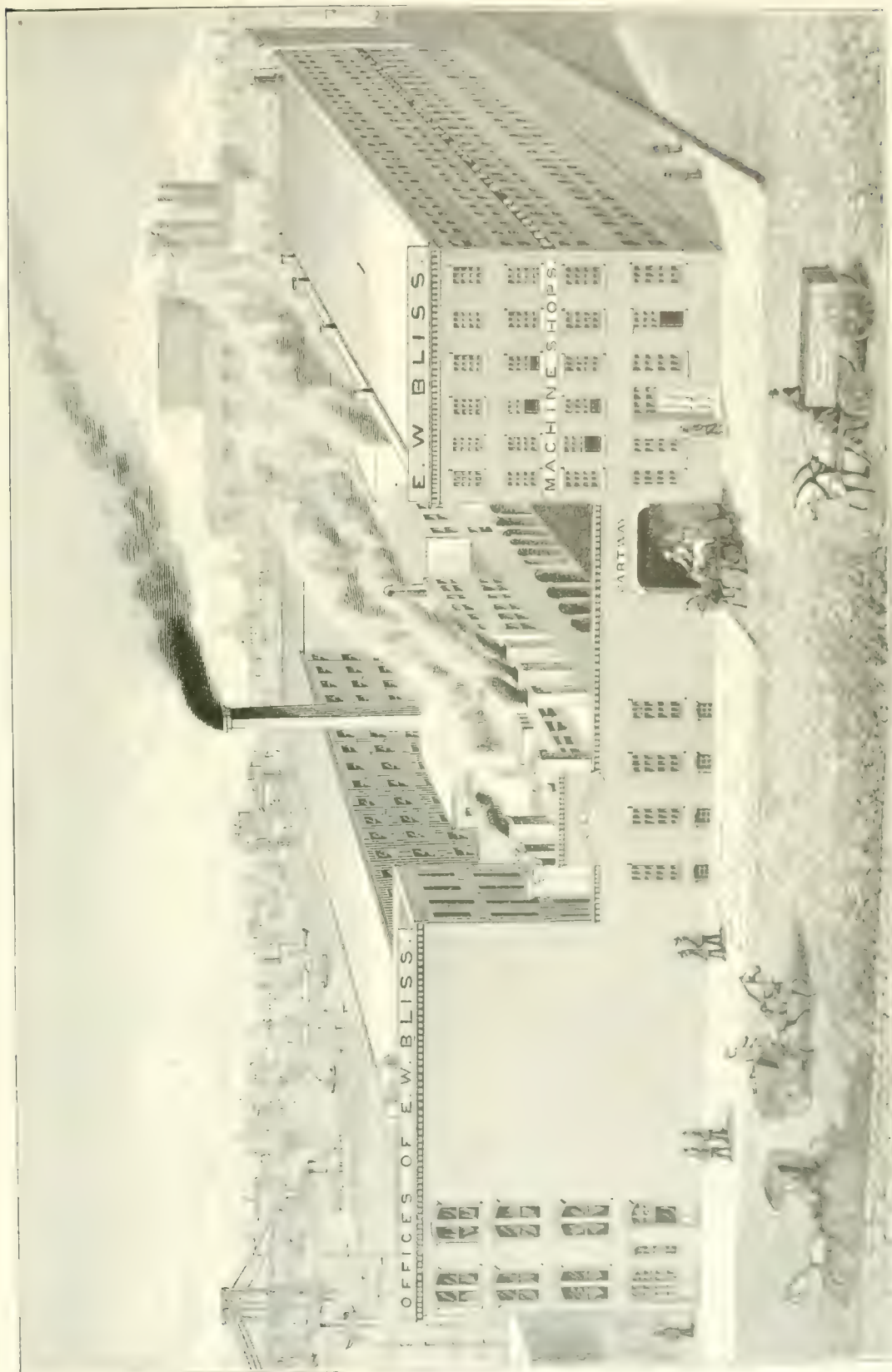
Mr. Bliss has built up in a few years an immense business in machinery for drawing and stamping cold, plates of tin, sheet iron, brass or copper, in all the required forms for household or manufacturing use. It is well known to most housekeepers that the tin pans, kettles and pails, which were formerly cut by hand, and laboriously pieced and joined, are now stamped or drawn into shape from a single sheet of metal, at a much lower price; but it is not so generally known, except to the parties concerned, that our millions of tin cans for oils, fruit, vegetables, meat, oysters, fish, and everything else which can be sealed up, are made by machines which will turn out many thousands each in a day.

Mr. Bliss's establishment is the largest of its class in the world; the main building, 200x50 feet, four stories in height, occupies an area of 27,000 square feet. The buildings and plant are all owned by Mr. Bliss, who has also invested in the business a working capital of \$350,000, employs from 300 to 350 men, nearly all skilled workmen, pays an aggregate of \$240,000 for wages, and produces annually more than \$500,000 in value of machinery, the greater part of it from patterns invented in his own works. His specialties are the production of presses and dies for working sheet metal cold, as well as paper, wood veneers, etc., etc., and the furnishing of tools and automatic machinery for the manufacture of household wares, brass goods, lanterns, lamps, trade packages, such as fruit, meat, vegetables, fish, provisions, game and other cans; lard, butter, syrup, and other cans and pails, and beyond all the rest, the cans for petroleum oils, which are in such great demand. One item will demonstrate the extent of this branch of his business; he supplied the Devoe Manufacturing Co. with machines capable of turning out 60,000 five-gallon cans in a day.

The number and variety of these presses and dies is very great. His catalogues give illustrations of more than 200, and he is constantly producing more, either from his own designs or those of other manufacturers, which he makes to order. Some of these presses



"OWL'S HEAD." RESIDENCE OF E. W. BLISS, Esq., AT BAY RIDGE, L. I.



VIEW OF E. W. BLISS MACHINE WORKS AND FACTORY

weigh 25 tons or more, and are the perfection of mechanism for their purpose.

An industry which has so thoroughly revolutionized the vast trade in tin-ware, and in other goods produced from sheet metal and kindred substances, deserves to have a record of its history made. Under the heading of tin-ware manufactures, we have described, in part, the effect of the new processes of drawing and stamping the sheets of tin into a great variety of forms upon other productive industries. In speaking of Mr. Bliss's establishment, our inquiries must be confined to the history and progress of the construction of machinery for accomplishing these purposes.

The whole foundation of the discovery of the mode of manufacturing deep stamped or pressed ware, had for its basis the ductility of cold wrought iron, under slow and continuous pressure. This quality of the wrought or sheet iron, whether coated with tin or not, had not been fully discovered till about 1843. It was known, indeed, that, by the use of the drop press, it was possible to make shallow dishes of tin or sheet iron by repeated stampings, but the corners of the articles so made were very prone to crack, and the articles had a rough appearance. The first inventor of machinery to accomplish this, who was successful in manufacturing it on a large scale, was a Frenchman named Mix, of Metz, then in France, but now in Germany. He accomplished his purpose by slow pressure with a power press, but he annealed his sheet iron before stamping it, and did not coat his plates with tin till he had stamped and otherwise prepared them. This afterward proved to be unnecessary. His process was a strict monopoly and secret, and, while charging enormous prices for his wares, he reaped a great fortune from their manufacture. The secret, however, finally transpired; and, in 1856, the firm of Lalancé & Grosjean started a factory for deep stamped tin-ware, near Paris. They had large capital and were enterprising, and, in 1862, established a branch house in New York, which they removed the next year to Woodhaven, Long Island. Their processes were substantially the same as those of Mix. They met at first with very strong opposition from the trade, but finally overcame it, and for three or four years had the monopoly of the production in this country. Then a rival house sprang up, but was finally bought up by Lalancé & Grosjean. This house had, however, made several machines which they sold to others before they were bought out. The processes had been improved, and sheet tin was now used, and with satisfactory results. But monopolies do not flourish well on our soil, and, before 1870, there were eight machines sold to as many different firms for the manufacture of the deep stamped tin-ware. New inventions had been patented, which rendered the processes cheaper and more satisfactory. The time had come for the development of the business of producing these

machines and selling them to the tin-ware manufacturers. One improvement made about this time gave a new impetus to this enterprise. This was an adjustment, by screws and guides, of the "blank-holder." The sheet of tin had hitherto been laid across the mould, and the die or stamp had descended upon it with comparatively slow, but irresistible, force, and the plain sheet became, under this force, a deep dish or pan. A rough disk of metal, even then known, perhaps, as a blank-holder, had been laid over the plate by Mix and his successors, but the pressure was uneven and not carefully adjusted; and, as a consequence, the edges of the pan or dish were wrinkled or corrugated a little, and the pan was not so smooth and seemly as those made by the old process, and was composed of several pieces riveted and soldered together. The new adjustable blank-holder was an annular disk or ring of metal which was held in place by screws and bolts, which could be so perfectly adjusted as to make the pressure perfectly uniform over the whole plate and prevent the slightest wrinkling or corrugation.

The spinning lathe, another early invention, was so modified and improved that it facilitated the rapid and perfect finishing of these goods. In 1867, Mr. Bliss, who had served as apprentice, journeyman, contractor, foreman and superintendent in machine shops for sixteen or seventeen years, formed a partnership with John Mays, of Brooklyn, to manufacture presses and dies, in a little shop in Adams street, employing six workmen. The time was auspicious, and the partners were enterprising and ambitious. They had increased their business and had made improvements on these presses, when, in 1871, Mr. James H. Williams bought out Mr. Mays, and the business was moved to larger and better quarters. They removed again in 1874, and greatly enlarged their business. They had already invented machines for applying this drawing process and other processes to the manufacture of cans for fruit, meats, fish, etc., and to the rapidly developing demand for petroleum oil cans. In 1879, Mr. Bliss purchased the site of the present factory, and erected their buildings, and the business was removed thither the same year. Four times, since 1879, the buildings have been enlarged, and the business extended by the purchase of other buildings. In 1881, he bought out Mr. Williams' interest, and has since conducted the business alone; and, at the age of 47, is at the head of one of the largest machine shops in the world, with a business which is increasing with a rapidity unparalleled in that line of industries, and all this has been accomplished in sixteen years, by pluck, energy, and perseverance.

Mr. Bliss, in his extensive machine shops and foundry, sometimes turns his attention to other branches of the business, as the construction of steam pumps, sugar-house machinery, etc.; but, in general, his large force are fully employed in filling his orders, which come from every part of the globe.

There are other machinists engaged in a moderate way in supplying this demand for drawing and stamping presses and dies. Among them we may name *Robert Brass*, of Scholes street, E. D.; *Oramel C. Carpenter*, of Lorimer street, E. D., and Messrs. *Kennedy & Diss*, of Adams street. *Bernard F. Piel* also advertises presses among his various machines. The total annual product of drawing and stamping presses and dies does not probably greatly exceed \$600,000, and employs, possibly, 425 men.

We can find no trace of but one manufacturer of *cotton presses* in Kings county, viz., *Balston & Son*, of 35 Quay street, Greenpoint. We have been unable to learn any particulars of the extent of their manufacture.

There were formerly two manufactories of *printing presses* in Brooklyn, the *Montague* and the *Campbell*; the former have now removed to another city, and the *Campbell* press manufacturers have formed a joint stock company, under the title of the *Campbell Press Works*. The *Campbell* press is one of the best and most popular of the modern printing presses, as distinguished from the great printing machines on which the mammoth dailies are printed, and there is a good and constantly increasing demand for a press of this description. The *Campbell Press Works* employ 30 or 40 men and turn out something over \$100,000 worth of presses annually. The entire annual out-put of this subsection may be safely estimated at not less than \$800,000, and about 525 men are employed in all its shops.

Among other manufacturers and dealers in engines, machinery, &c., we may mention *James Pendlington*, 88 Elizabeth street, shipsmith, steam forging and screw-bolt manufacturing, established 1869 (since his decease, in 1882, the business has been managed by his step-son, *John A. Knowles*). *Reuben Riley*, 508 Clinton street, builder of steam-engines and machinery; came to Brooklyn in 1854; established 1866, on Summitt street; now located corner of Richard and Bowen streets. *Daniel Sanders & Son*, Shepard avenue, near Baltic avenue, engineers and machinists; established 1881, East New York; make a specialty of manufacturing experimental machinery.

SUBSECTION VI. — *Brass Foundries and Brass Castings and Finishing.*

It is somewhat difficult to ascertain who, and how many of our manufacturers, should be included under the title of brass founders. Most of the large engine and steam pump manufacturers manufacture, cast and roll the brass for the trimmings and bearings of their pumps and engines; some of them, like the *Worthington Pump Works*, manufacture the brass from the zinc, copper, etc., in order to have it of the requisite and uniform hardness which they want. The jobbing and repairing machine shops, which use a good deal of

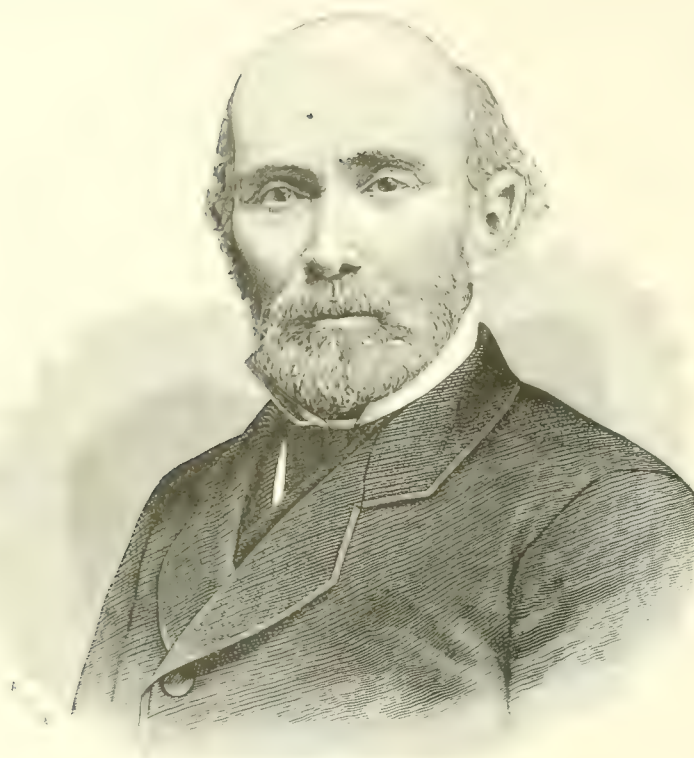
brass, purchase it in sheets or ingots of the great manufacturers at *Waterbury*, *Ansonia*, or *Providence*, and work it up for themselves. These last are certainly not brass founders, as the *Worthington* and some of the others are, but they are to some extent brass finishers.

Yet aside from these, there are several brass foundries and manufacturers and die-casters in Kings County, besides some iron foundries, whose part is much more in brass. *Johnson* and *Wheeler* are among two or more machinists who make large scale a specialty.

In Mr. Frothingham's report the number of establishments of brass casting and finishing had for the capital invested, \$227,750; largest number of hands employed, 381; amount of wages paid, \$144,213; raw material, \$773,125; annual product, \$1,059,823. This probably represented, as far as could be ascertained by the census processes, the business of brass castings and finishing in 1880. It does not fairly represent them in 1884.

Of the brass founders and manufacturers, some do a general business, making, casting and rolling brass for all the purposes required, and finding a market for their goods mainly among other manufacturers, who work up the brass into such forms as they require. These are but few, however; the great brass foundries at *Waterbury* and *Ansonia*, and their warehouses in New York, supplying much of this demand. Others make a specialty of bronze and phosphor bronze, and the great demand which has sprung up for these for door knobs, hinges, window fastenings, sashes, etc., etc., as well as for statuettes and ornaments, makes this manufacture specially important at the present time. Others make a specialty of plumbers' brass goods, and steam engine and steam pump trimmings, faucets, brass and copper boilers, valves, stop-cocks, etc., etc. Others still manufacture registers, screens, grate trimmings, fenders, office railings and gates, stamped brass, railroad baggage checks, etc. Still another class devote themselves to die sinking, seal engraving, book-binders' stamps, and to the manufacture of printers' rule, and the strip brass used in the cylinders for printing wall papers.

Blakeman & Körner, of Dunham Place, and *J. O. L. Bettcher* of First street, E. D., are brass founders, pure and simple, and so perhaps are two or three more smaller houses. *John Bowie* of the *Columbian Brass Foundry*, and his neighbors, the *Brooklyn Brass and Copper Co.*, both on Front street, near Pearl, make special castings of brass, composition, zinc and lead to order, fine ornamental castings of zinc, lead or brass for cemeteries, and make a specialty of phosphor bronze. *F. A. Renton*, of the *Greenpoint Brass Foundry*, and five or six others, manufacture plumbers' brass goods and brass for engineer work, and Renton makes a specialty of a patent ejector faucet.



WILLIAM G. CREAMER.

Messrs. *James Bailey & Co.*, of Clymer street, E. D., and several others, are die sinkers, makers of book-binders' and other stamps, seal presses, brass tools, etc., etc., while the *Brass Goods Manufacturing Co.* and the *Long Island Brass Co.*, manufacture a general assortment of brass goods.

Mr. *William G. Creamer* of the "Brooklyn City Foundry," whose portrait and biography adorn our pages, though down in the directory as an iron founder, has more to do with brass and bronze than with iron. His establishment on Grinnell street, extending from Smith to Court, was erected in 1869. Its extent is 100x300 feet, an area of 30,000 square feet, and it includes several large buildings. He manufactures everything in the way of hardware or metal trimmings used in the interior of railroad cars, the lamps, seat frames, ventilators, sash trimmings, bell-cord fixtures, locks, saloon fixtures, etc., etc.

He manufactures, also, every description of registers and ventilators used in private dwellings, schools, public buildings, etc. He has furnished these for the Capitol at Albany, and the Capitols at Atlanta, Ga., and Des Moines, Iowa, as well as for many of the public schools of this city, and other cities, the Middletown Asylum, etc. But his finest goods are in the line of choice hammered brass and repoussé work, mirrors, sconces, tables, candlesticks, table tea-kettles, etc.,

etc. He also makes fine brass, iron and bronze castings and general brass work, such as railings, vaults, doors, etc., etc.

He has a capital of \$100,000 invested in the business, employs about 80 hands, and turns out nearly \$250,000 worth of goods annually.

WILLIAM G. CREAMER, the subject of this sketch and the proprietor of the Brooklyn City Foundry, has been a resident of this city since 1860. He was born in New Jersey, November 26th, 1821. His ancestors on his father's side emigrated to this country from Lower Saxony about the middle of the last century, and settled in Middletown, Connecticut. His grandfather married an English lady, Lydia Simmons. His father, the Rev. John Creamer, was born in 1794, and married, in 1820, Nancy B. Snyder, of New Brunswick, N. J. She was of Holland descent. The marriage of the young Methodist clergyman was something of a romance, and is perhaps worthy of a place in this sketch.

Miss Snyder was on a visit to her uncle, Archibald Taylor, Esq., a wealthy land owner of Hunterdon county, N. J. While there, she and her cousin heard of the eloquence of the young Methodist preacher, who was to preach in a barn a few miles from her uncle's residence. The young ladies thought it would be worth while to go and hear him, and, with the consent of Mr. Taylor, the family carriage and colored coachman took them to the meeting-house, where, of course, their appearance attracted some attention among the audience. The young ladies were much interested with the eloquence of the young itinerant, who gave notice that he would preach again at the same place three weeks later.

The second time they went, the young minister, attracted by their appearance, took pains to find out who his distinguished visitors were, and a year or two afterward was married to Miss Snyder, who died in April, 1883, full of years and honors, in the 84th year of her age, at the house of her son-in-law, W. A. Bray, Esq., of Oakland, Cal. The Rev. John Creamer died in 1836, while attending Conference in Philadelphia.

Mr. Creamer was married at New Brunswick, N. J., Dec. 29th, 1842, to Miss Hattie Molleson. From this marriage there were two sons and one daughter. The daughter, Hattie, only survives. She was married in 1867 to Colonel L. L. Langdon, of the U. S. A. In 1869, his oldest son, Horatio, was married to Miss Chicas, of this city, and died March 6th, 1892. Two children survive him. The youngest son of Mr. Creamer, Robert, died in infancy in 1850.

At the commencement of the late war for the Union, Mr. Creamer was the first resident of the Sixth Ward to display the old flag from the top of his house in Second place, and there it remained until the close of the war.

He has never been specially active in local politics, or even national affairs, so far as immediate participation is concerned; but, at the same time, he has always been a close reader and earnest thinker in the history and politics of his own country, as well as the world at large, and has performed every duty devolving upon a citizen.

The most important sphere of Mr. Creamer's active life has been connected with his inventions and improvements, and he is widely known throughout the Union by his numerous inventions connected with railroad car building.

His first and, perhaps, most important invention was known as the Creamer safety-brake. This was the first practical and successful invention that gave the engineer complete control of every brake of all the cars comprising the train. This invention was largely used on the Hudson River railroad, New York Central, Lake Shore and many others, and was only lately superseded by the air-brake. Mr. Creamer himself made the invention of an air-brake in 1855, and filed a caveat of the same in the Patent Office. This invention was shown at the time to a number of railroad men, but its use was discouraged, the safety-brake being then considered preferable. The gold medal of the American Institute was awarded for his safety-brake. His connection with railroad affairs, through the invention of his brake, brought to his attention many suggestions of improvement in the construction of passenger cars; and, in the latter part of 1863, he hired a small room with steam power in John street, New York, and commenced, in a small way, the manufacture of car fittings, and from this small beginning has grown the business now conducted at the Brooklyn City Foundry.

Space would hardly allow in detail a description of all the inventions made and patents issued to Mr. Creamer. Next to his safety-brake, his system of ventilation of railroad cars is best known. More than a hundred thousand of his ventilators have been sold, and are being constantly made. Mr. Creamer is in the enjoyment of excellent health, and is actively engaged in his business in Brooklyn and New York, and often tells his friends that he does not intend to give up work as long as his life is useful to the world, or until he is called to Greenwood.

Messrs. *White & Price* machinists, the *South Brooklyn Steam Engine Co.*, and several other large machine and engine shops, do a considerable business in brass casting and finishing.

The statistics of the brass foundries and factories are, as nearly as can be ascertained, as follows: Number of establishments, 27; of, including Mr. Creamer and the two machine shops, 10; number of hands employed, about 600; wages paid annually, about \$1,000,000; annual product, \$1,600,000.

SUBSECTION VII.—*Woodworking Machinery, and small machines of all kinds; iron bolts, nuts, washers, sockets and rivets, steam, Anders, and cast-iron hollow ware.*

The various industries included in this subsection occupy many shops, and employ, in the aggregate, a large number of hands; but the amount of capital invested is not so large, nor the out-put of so great a value as some of the other classes of manufacturing work. The manufacture of woodworking machinery—which was for many years confined to a few simple machines, such as lathes, mortising machines, gang, circular, key and jig saws, and boring machines—has of late assumed a new and larger activity. The band saw and the scroll saw both work wonders; the veneers from the choicest woods are now taken off spirally, and so thin and perfect as to save the manufacturer one-half the former outlay for veneers. The new mortising machines, the dove-tailing machine, and the lathes for irregular forms, are among the most remarkable evidences of human skill and ingenuity of modern times. Still more wonderful are the machines for working in ivory, bone, and the softer metals. The machines for making the iron and steel work of sewing machines have reduced the construction of these useful machines to the finest possible point. The Singer Manufacturing Company can calculate the cost of its sewing machines to a fraction of a cent; and any proposed process which would reduce that cost to the amount of three cents, would be adopted at once, though it might involve an outlay of ten thousand dollars, for three cents on the cost of a sewing machine is more than \$15,000 on their annual sales. This is true also of many other small machines, of which such great numbers are now put upon the market. The manufacturers of household hardware use very many of these machines, in the manufacture of their articles; and fluting, pinking, plaiting, braiding and crimping machines, jewelers' rolls, macaroni machinery, etc., are specialties of several machinists.

The business directory for 1883 puts down seven firms as metal workers or manufacturers of metal goods. Some of these are, we believe, put down elsewhere among the machinists, but they themselves make the distinction. They are probably not all exactly in the same line, but this is perhaps the best place in which to group them. So far as our information goes, the largest of these houses is that of *William Lang*, of South 6th and 1st streets. Mr. Lang commenced business in 1869. He has invested a capital of \$25,000 in his business; employs an average of 100 hands; pays

and \$100,000 annually for wages, and produces annually about \$110,000. At the commencement of his business Albert Hondlett was associated with him. Other houses, reported as metal workers, are: the *Brothers Aston*, at 230 Java street, and 133 Manhattan avenue; the *Complete Manufacturing and Reducing Co.*, 175 North 10th street (we are not certain about their claim to a place here); *William J. Flick*, 21 Atlantic avenue; *Charles J. Husack & Son*, 36 Stagg street; *James Smith*, 65 Java street.

When we come to the manufacture of bolts, nuts, washers, screws and rivets, we are lost in admiration of the ingenuity of the machines that produce these in such perfection and in such vast quantities. Some of these screws—those for the watch manufacturers' use—are so minute that they look like grains of sand, and from four hundred to five hundred of them only weigh an ounce. Others, like the jackscrews, are so large that it requires the strength of several men to turn them in their sockets. There are five or six manufacturers of screws in Brooklyn, the leading houses being *William C. Boone & Son*, *James W. Lyon*, and *John Fellows*. Some of the machinists also give special attention to the manufacture of screws for a particular service. Of the manufacturers of woodworking machinery there are several. Among them are *Stone & Mount*, *Leonard Tilton*, and others. Most of these work for two or three of the great furniture manufacturers, and are so fully employed as not to make their vocation very public. Among the manufacturers of small machines are *Robert Brass*, *Kennedy & Diss*, *Frank E. Stevens*, *J. J. Patton & Co.*, *Oakley & Keating*, etc., etc.

It is very difficult to estimate the total production of the classes coming under this subsection, yet we can approximate it. The screws, bolts, rivets, etc., include not less than sixteen establishments, and an annual product of not far from \$250,000; the woodworking machinery, five or six, with a total product of perhaps \$125,000; the metal workers, about 200 hands, with a product of not less than \$350,000; the small machines, sewing machines, etc., etc., about twenty, with a total product of at least \$300,000. If we add to this the fifteen establishments for the manufacture of stoves, heaters, and cast-iron hollow ware, which form a distinct branch of the business, we have a further product of about \$475,000, making a grand total of fifty-six or fifty-seven establishments, employing, perhaps, 850 hands, and producing about \$1,500,000.

SUBSECTION VIII.—*Minor Machine Shop Products, and Repairing.*

There are very many of these shops, and the number is constantly increasing, and as constantly being diminished—increasing from the enterprising young men who have learned their business, set up for themselves in a small way, seeking for employment for the few tools they have purchased or made, and perhaps

also for some brother journeyman who has cast in his fortunes with them, doing at first small jobs in the way of making and repairing, and as they win the confidence of manufacturers or the public, increasing their facilities till they have a large shop, a dozen or more hands, and constant business. The ranks of these enterprising young machinists are also constantly diminished, as one after another, having proved his skill and executive ability, passes to the higher position of foreman or superintendent of some great foundry or machine shop; or, in rare cases, builds up a large business in some specialty of his own. There are not less than fifty of these jobbing and repairing shops in Kings county, and their annual production ranges all the way from \$3,000 to \$30,000. They employ at least 175 workmen in all, and their total out-put is not far from \$275,000, or, counting in the most prosperous of their number, may reach \$300,000.

SUBSECTION IX.—*Iron Fences; Railings, of Wrought Iron, Wire, etc., and Wire Work of all kinds.*

This is a large subsection, including a great variety of products. The cast-iron fences and posts for the steps and areas of our city houses, the graceful or ungraceful wrought-iron fences of greater length and extent, the wire fences, window guards and railings of all sorts, often elegantly wrought or woven, and, beyond these, the thousand uses to which woven wire network is put for sieves, screens, doors, filters, nets, baskets, gratings, meat safes, flower stands, etc., etc. And still beyond these come the multifarious uses of iron and steel wire, of some of which we have had such exemplifications in the construction of our beautiful Bridge. The use of it, plain and barbed, for a fencing material encompasses several hundreds of thousands of miles in the West, and is very large in the East also. Wire rope is not only used in bridge-building and in the traction of cars, but it is largely in demand for the standing rigging of ships, especially of steamships; is greatly preferred for elevators for mines and mining shafts, and for all kinds of traction where great strength and the minimum wear from friction is required. In all these directions, our Kings County manufacturers are equal to any in the United States. In cast-iron and wrought-iron fences and railings, cemetery iron-work, area gates, window guards and gratings, awning irons, sheet-iron doors and shutters, etc., are the houses of *Howell & Saxton*, *Knight Brothers*, *Smith & Rhind*, the *Eagle Iron Works* of Jacob May, *Howard & Morse*, *Philip H. Dugro* and James Forman, whose establishment, the *Brooklyn Wire Works*, in Court street, though small, does excellent work, turning out, with a very few men, the best of wire and ornamental iron work. The *North American Iron Works*, the *Atlas Iron Works*, *Thomas F. Rowland*, *Richard Knudsen*, and many others, are largely engaged, and in the excellence of their work they have no superiors.



J. F. Waller

Annin & Co. have a high reputation for the excellence of their iron pipes and tubes.

The manufacture of *wire cloth* of all descriptions, and of fine wires, is a large industry in Kings county. There are nearly twenty firms, large and small, of all descriptions, engaged in it; but so great is the variety of purposes to which it is applied, that there is very little rivalry among them. Some confine themselves to the weaving of iron wire cloth, for which there is a large demand for window screens and doors, meat safes, and the coarser wire screens for coal, sand, etc., etc. Others make and weave fine steel wires for various uses. Some, instead of weaving the wires which they have drawn, twist them into ropes and cords of varying size, from the great wire ropes or cables of the Brooklyn Bridge to the rigging of a steamship, or the more delicate ropes of a pleasure yacht.

Others, again, draw and weave almost exclusively brass and copper wires for sieves and delicate screens; and one house makes a specialty of producing from these metals the Fourdrinier wires and the Fourdrinier wire cloth, so largely in demand for the use of paper-makers.

This house, the *William Cable Excelsior Wire Manufacturing Co.*, whose extensive works in Ainslie street and Union avenue are depicted on the following page, has had an interesting history, which will be found in detail in the following biography of

THE BROTHERS CABLE.—The Cable family are of ancient and good blood. For several hundred years they had been among the honorable and esteemed citizens of Frome, an old and pleasant manufacturing town of Somersetshire, England; and three hundred and seventy-five years ago their ancestor, John Cable, was granted a charter by Henry VIII. to build and endow a chantry in the parish church of the town, which he dedicated to St. Nicholas. On the large and beautiful stained-glass window of the chantry were depicted, according to the custom of the time, the Cable coat of arms. Beside the usual armorial bearings, the principal figure was a sea-horse rampant, impaling a text K and a bell, the whole enclosed by a rope or cable, a double play upon the family name; this window is still in existence. The family had continued to be respectable and prosperous, and about the beginning of the present century they had become dissenters, enrolling themselves among the Independents, of which several members of the family were prominent and active communicants.

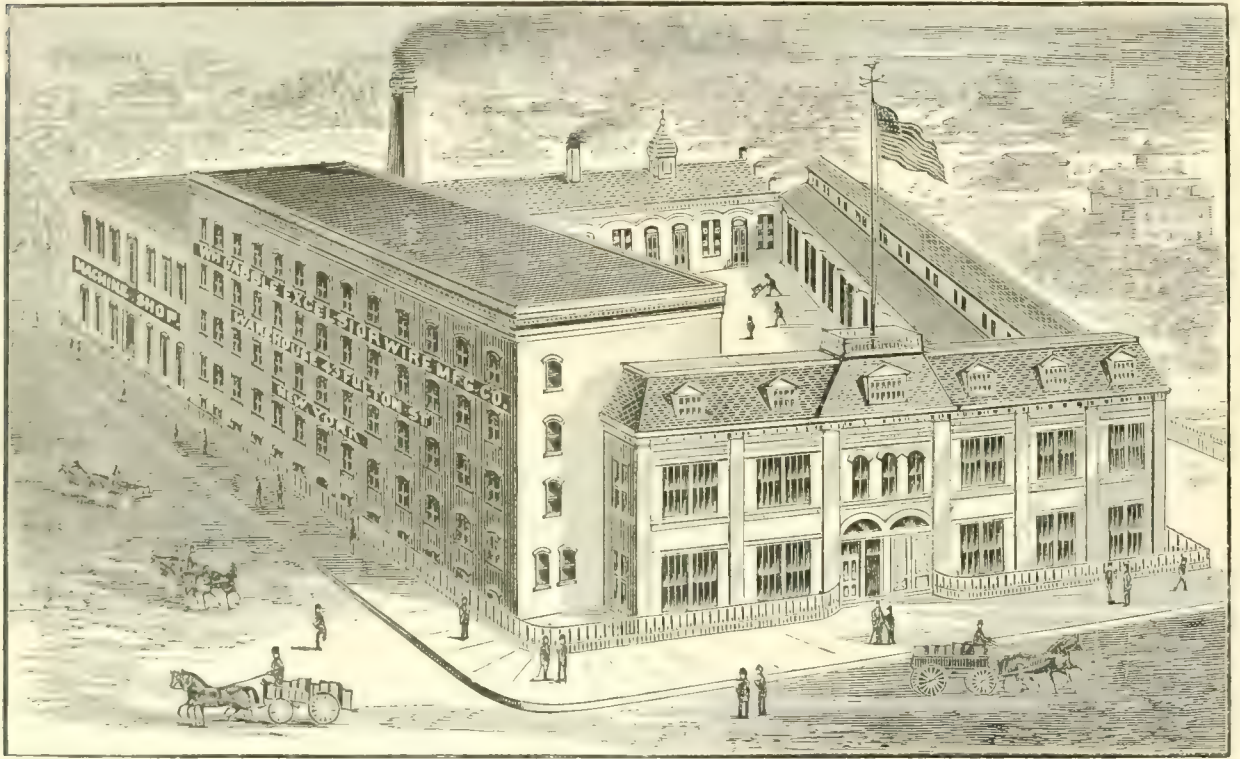
It was not far from the year 1800, that Edward Cable went into the employ of Mr. Joseph Whiting, a wire manufacturer of Frome, and after a time married Mr. Whiting's daughter, and at his death succeeded to his business. He was an able, intelligent and enterprising man, conscientious and upright in his dealings, and brought up his family with great care, giving his children good opportunities of education, and training them thoroughly to business habits. He died in 1844, leaving four sons, the eldest of whom, William Cable, then a young man about twenty-six years of age, inherited his business, and was thenceforward to be the head of the family and the protector and father of the younger members of it. William Cable, whose portrait graces our pages, was no ordinary man. He had been well educated in the city of Frome,

and had obtained a complete mastery of the wire manufacture. He was enterprising and ambitious, but not without impulse. He saw very clearly that Frome offered no scope for such extension of his business as he deemed desirable for himself and his brothers, and he decided to emigrate to the United States, taking them with him. The suit here, 1845, he sailed for New York, with his family and property, and at once began to look about for business. Possessing a fair amount of property, and a large amount of capital, he was not disposed to risk everything upon an immediate start in business, among a people whose ways and methods were in many respects strange to him. He was already married to the noble woman who survives him, and he took his brothers into his family and sought employment for himself and his brother Joseph in the wire manufactory of Mr. Robert Cocker. He remained with Mr. Cocker for two years, and then resolved to start in business for himself, at Roxbury, Connecticut. His first venture was unfortunate. It was too far from a good market for his goods; and as the mill was run by water power, a great and continued drought dried up the stream which supplied it, and compelled him to close it for six months. Disposing of this property, he returned to New York, and soon after established a mill at Belleville, New Jersey. Here he remained for three years, and then returned to New York, and located his works in Gold street. Soon after this he became acquainted with Mr. David Woods, of Hester and Elizabeth streets, who was then at the head of one of the oldest wire-weaving establishments in the country. In 1854 Mr. Woods made overtures to Mr. Cable to become his partner. Not long after, Mr. Woods sold out his interest in the business to Mr. Cable, who thus became the head of a large and flourishing manufactory, located in Centre, Hester and Elizabeth streets, and with a warehouse at 43 Fulton street. He had taken his three brothers into the factory, not as partners, but as workmen, that they might become thoroughly familiar with all the details of the business; and while they were all skilled workmen, the youngest, Elijah, who was only a boy of fifteen when he came to this country, had developed much of his brother's enterprise and executive ability. In 1857 Mr. Cable removed his works to the Eastern District of Brooklyn, hiring a factory at Tenth and Ainslie streets. Two years after, this factory was burned down. He purchased the site and rebuilt it, and a few years later, desiring larger quarters, he bought the site of the present works on Union avenue and Ainslie street. In 1860, finding that there was a large demand for hoop-skirts, he built a new factory, and employed five hundred hands in the drawing, rolling and tempering of steel wire, used in their manufacture. When, a few years later, these garments went out of fashion, he sold the machinery and replaced it with iron looms for wire-weaving. His business prospered, notwithstanding several disasters by fire.

In 1870, this good, wise and judicious business man, esteemed and beloved in all the relations of life, was laid on his death-bed, smitten by that terrible malady, Bright's disease of the kidneys. But death had no terrors for him. With a calm and humble faith, he prepared to surrender his spirit to the keeping of the God who gave it. He was mindful of the trust which his father had left to him, and made provision in his will for all those, in any sense, dependent upon him. He provided that a joint stock company should be formed, to carry on the business, for which he also left the necessary capital; that his wife and youngest and his three brothers, should constitute the company, and that his youngest brother, Elijah, should be the President, his brother Joseph, Secretary, and E. Cable, Treasurer. Elijah Cable was also to be the manager.

The family and the soundness of his judgment and the wisdom of his choice. Mr. Elijah Cable, whose portrait graces the opposite page, assumed the position to which he was called with the hearty co-operation and good will of all the members of the family, and a more united and happy family it would be hard to find. He has devoted his whole powers to building up the business, with a persistent earnestness and an untiring fidelity to the interests of the family, which is as rare as it is beautiful, impairing his health by his devotion to the business. The second brother, Joseph, died in 1879, a man of rare gifts and talents, with whom music was a passion, and art a delight. His son, Joseph, took his place in the company as Secretary, and several of the younger generation have been admitted, after thorough training, as shareholders in the company. Mr. Edward Cable, the third brother, is now Superintendent.

their original length. After drawing, they are annealed, cleaned, and if necessary drawn again till they have reached the proper degree of fineness. They are next tested, examined and classified as to strength, temper and fineness. When ready for use, the wire is wound off on spools by the spooling machine, for the warp and shuttles, and reeled for special purposes on hand wheels. These spools are now taken by the weavers, and the wire from them wound upon the back beam of large, ponderous, iron looms, varying in width from four to ten feet, and weighing from three to seven tons each; then, one by one, the threads are taken through the heddles or harness, then through the reed, which form the



THE WILLIAM CABLE EXCELSIOR WIRE WORKS.

Meanwhile, in these thirteen years, the business has trebled in amount, and new buildings have been erected, until they cover nearly half of a large city-block; the manufacture of Fourdrinier wire, and Fourdrinier wire-cloth, for the use of the paper-makers, is constantly extending, and the demand, stimulated by the excellence of their goods, more than keeps pace with the supply. Their other lines of wire goods are also popular, and find a ready sale.

The Fourdrinier wire cloth, the making of which is the specialty of these works, is woven from very fine and perfect brass wire, and all the processes, except the manufacture of the brass, are conducted here. In the wire-drawing rooms, the large brass rings of coarse wire are arranged ready for the successive dies through which they are to be drawn, till they have attained two hundred thousand or three hundred thousand times

mesh of the cloth, sixty or seventy threads (as the case may be) to an inch, these are tied to a bar, this is fastened to a canvas, which is attached to the loom, and the operation of weaving then commences by throwing the shuttle back and forth. The weaving is performed, as usual on hand looms, the shuttles being provided with the bobbins of fine wire. The wire cloth which is thus woven at the rate of four or five yards a day by each weaver, is carefully inspected by the Superintendent; and, if found perfect, the pieces are sewed together, very deftly, to form an endless sheet, then drawn out, stretched, squared and made true, and rolled and boxed, ready for shipment.

Nearly all paper, of whatever material, is now made on the Fourdrinier machine, and as the wire cloth under



Thomas G. Hall

its necessary hard usage requires frequent renewals, the demand for it is constant and rapidly increasing. The wire cloth made by the Cabbie works, is of such uniformly superior quality, that it is regarded as the best in the market.

As Mr. Cabbie says: "Our aim is not the almighty dollar; we are proud of our work and of our name. Our father's boys were all brought up in the same business. We inherited it from father and maternal grandfather, and our aim is to make goods that cannot be surpassed."

Besides the Fourdrinier wire cloth, and Fourdrinier wires, dandy rolls and cylinder wires, the Cabbie works also manufacture iron-wire cloth for coal-burning locomotives, iron-wire bolting cloth, and other grades of iron-wire cloth; galvanized wire netting, fencing, fenders and guards, sieves and bolters, traps, screens, flower-stands, ropes, railings, chains and settees.

Their buildings, on Union avenue and Ainslie street, Brooklyn, E. D., are very extensive. They consist of four buildings, erected around an open court. The loom factory (one story, brick, 100 feet by 36 feet, with slate roof and lantern skylight) has just been completed. The front on Union avenue is 150 feet, with a depth of 100 feet, and on Ainslie street, the front is 92 feet, with a depth of 100 feet. The main building, on Union avenue, is 75 feet by 40 feet, four stories, and a basement occupied as an engine-house. The engine, a 40-horse power, and built by Weisbecker & Ray, of Brooklyn, is named "James A. Garfield." Here is the driving and heating force of the whole establishment; for the whole is heated by steam.

The office is in the two-story building, on Ainslie street, a fine building, with mansard roof, giving a third story, with an ornamental paling in the centre, from which rises an imposing flag-staff.

The directors' room is the parlor of the house; it is handsomely furnished, and its walls are hung with paintings. Adjoining the main building, on Union avenue, are: the machine-shop, where all the machinery is made and repaired; the blacksmiths' shop, where the forging is done, and the carpenters' shop, where every outfit for a large factory is at hand. The buildings cost \$45,000. They employ now about 105 hands, and very many of their employees, male and female, have been with them for many years; it being a rule of the establishment to make but few changes, which almost always implies faithful workers and good work. The factory is connected by telephone with the warehouse at 43 Fulton street, New York.

The annual amount of wages paid is \$70,000, which, considering the number of women and boys in the force, is, we think, the highest pay roll *per capita* in Kings county, or elsewhere. Their annual out-put at present is from \$240,000 to \$250,000, but they can, in years of active and prosperous business, nearly double this amount with their present machinery and appliances.

Of the other manufacturers of wire goods, Messrs. *Howard & Morse* and *J. H. Ten Wate & Sons* are both very large houses, and manufacture wire cloth, and almost every description of wire work already enumerated, except Fourdrinier wires and Fourdrinier wire cloth, these, as we have said, being now manufactured in Kings county in New York by the *William Cabbie Company*. The out-put of these two houses is about the same as that of the *William Cabbie Company*. The other houses in the business, *The Brooklyn Wire Cloth Works* (Richardson & Hodgson), *South & Alford*, *Joseph Newark*, *The N. Y. Wire and Wire Rope Company*, *Philip Schmitt*, *Michael McCormick*, *John McMurray*, *Francis A. Fay*, *John James*, *John H. Schweers*, etc., make almost every variety of wire goods and wire rope. Several of them are large and enterprising houses, doing a good and profitable business; others are but new beginners, but make excellent goods, and will achieve success.

The census reported in 1880, on "wire work," 10 establishments; \$240,778 capital; 172 hands; \$83,690 wages; \$97,641 material, and \$228,204 annual product. As we have seen, there are three, at least, of the houses in the trade which each exceed this product. Our figures are: 17 establishments; about 525 hands; about \$180,000 wages; about \$1,050,000 annual product.

SECTION VII.

The Manufacture of Steel.

The manufacture of iron from the ore is not one of the industries of Kings County. The production of steel is not on a large scale, and there are, we believe, no Bessemer steel works here, these requiring a costly and extensive plant, and certain facilities for obtaining ores and fluxes which do not exist here. The census persistently ignored the existence of any steel works here, although one had been at work here since 1868 or 1869, and the other for five or six years. The *Chrome Steel Works*, Kent avenue, cor. of Keap st., is deserving of a place in our history, if there were no other reason, for its plucky persistency in overcoming all obstacles, and for refusing to be overwhelmed or discouraged by a long succession of disasters. It was started to demonstrate the truth of a theory, that chromium was a good and sufficient substitute for carbon in the manufacture of steel.

The first experimenters, though good metallurgists in a small way, with crucible and cupel in the laboratory, were not at home in the larger operations of the furnace, and met with technical difficulties and obstacles which were as unexpected as they were annoying; they would turn out a number of ingots of very superior steel, its qualities surpassing everything in the market; and while they were rejoicing over this, and reckoning their profits, the very next batch, selected from the same materials, and made by the same process,

cesses, so far as they could determine, would come out with the best power, and none of the qualities required in steel; and yet the one ingot could not be distinguished from the other. The reasons for this difference could not be ascertained, and, discouraged by long-continued ill success, the original partners withdrew, one after another, till but one was left; but he, a Scotch-Irishman, held on and held out, and within the last four or five years has succeeded, in part at least, in overcoming this very stubborn difficulty. This uncertainty of the tenacity of the product, had given the Chrome steel a bad reputation. The company was a bidder at low rates for the steel wire for use on the Bridge, but its reputation for uncertain tenacity of its steel caused the bid to be thrown out. Of late, the steel has been quite uniform in its character, but the difficulty of insufficient capital, which has hampered it from the first, still causes it difficulty. The invention has proved itself valuable, and it is time that the attention of capitalists was turned to it. The out-put is now, we learn, from \$50,000 to \$60,000 per annum.

The other steel manufactory of Brooklyn is that of *Wright & Son*, in Hancock street, between Reid and Patchen avenues. They make carbon steel, but the extent of their works or the quality of the steel we have been unable to ascertain.

SECTION VIII.

Saws and Files.

This is Mr. Frothingham's heading, and his statistics are: 24 establishments; \$161,900 capital; 302 hands; \$97,647 wages; \$90,718 material; \$249,805 annual product. The census office assumed that there was but one saw manufacturer in Brooklyn (there were three at that time), remanded him to the miscellaneous industries, and inserted *Files*, 12 establishments, \$25,750 capital, 76 hands, \$29,192 wages, \$21,970 material, \$68,509 annual product. Both entries are hopelessly wrong, and only illustrate the folly of meddling with statistics, which the officials of the census office were incapable of understanding. The two branches of business, which are intimately connected, have been carried on with many vicissitudes, but the annual product of the two is not now less than \$500,000, though there have been several failures within the last two years. The number of hands is probably now not far from 400.

But, as the processes of manufacture differ materially, and the saw manufacturer need not be, and often is not, a manufacturer of files, we will treat of *saws* first, and afterwards of *file-making*.

The manufacture of *saws and files* is not an old industry anywhere in this country. It is not yet fifty years since the English file manufacturers declared that the Yankees would never be able to acquire the art of making files; that the skill required had passed from generation to generation, and that no American could ever by

any possibility acquire the sleight of hand necessary to cut files evenly and perfectly. It is about forty-five years since the manufacture commenced, and for more than a score of years past the American files have ranked as high as any of English or French manufacture.

The saw manufacture has passed through a similar experience. The Sheffield manufacturers thought they had reduced their business to a system and perfection which defied competition. The tempering, toothing, grinding and finishing a saw were each processes requiring long practice and training, and it was not to be supposed, for an instant, that a people who had had no experience in such a manufacture, could compete successfully with the English saw works and their skilled workmen. But stranger things than this have happened, and it has come to pass that, while we manufactured about \$4,000,000 worth of saws in 1880, we imported in that year only \$14,475 worth, and exported in the same year \$37,271 worth, and about \$17,000 of this to Great Britain and its colonies.

There are now, according to the census of 1880, 89 saw manufactories and 179 file works in the United States, and 18 of the former and 37 of the latter in the State of New York. We have no positive knowledge as to the first manufacturer of saws in this country, but among the earliest, as well as the largest, was the firm of R. Hoe & Co., who afterwards embarked so largely in the production of printing presses. The early saw and file manufacturers found it desirable to import skilled workmen, saw-makers, saw-grinders and saw-handlers from Sheffield, to train their apprentices and young workmen in the difficult processes of the manufacture; and in 1848 they invited a father and two sons by the name of Peace, experienced and skillful saw grinders, to come over and manage their saw-grinding department. They came, and their work gave ample satisfaction. The elder son remained with Messrs. Hoe for thirteen years, and in that time made himself completely master of all the processes of the trade, something very rarely attempted in that business. In 1861 the two brothers commenced business for themselves, at first in small quarters in Centre street, New York; after a little, they removed to Johnstown, N. Y.; but in 1863 settled finally in their present location at Tenth and Ainslie streets, Brooklyn, E. D. Here they have, or at least the older brother has, built up a fine business, the establishment being the largest, with one or possibly two exceptions, in the United States. Mr. Peace confined his industry to saws alone; but of these he makes every known variety.

The steel used is principally of Pittsburgh manufacture, and while its quality is excellent, Mr. Peace complains that two of his competitors, who manufacture their own steel, are enabled to use steel which costs them only about one-half the market value, while he is obliged to use steel purchased at the market price, and

is thus handicapped at the very beginning of the race. Mr. Peace is a believer in a tariff with a fair degree of protection for manufactures, but he does not believe that it should be such a tariff as will discriminate against the manufacturer.

The steel used is rolled at the rolling mill to the proper length, width and thickness. The steel for carpenters' saws is in square sheets, which are divided diagonally, each sheet making two saws. Being cut into the desired shape, the future saws are toothed and filed while the steel is in the soft state. The teeth, which are of a great variety of forms, according to the purposes for which they are designed, are, except in the more complicated forms, cut by automatic machinery, the machine for cutting the teeth of the carpenters' saws making

on a hardwood block), and, as the processes through which they have passed have somewhat impaired their elasticity, this is restored, if need be, by heating to the required color. They are next set, filed, etched and oiled, when those saws which do not require handles are finished, ready for packing. The carpenters' and cross-cut saws are transferred to the saw-handler's department, and the blades are punched to receive the screws for the handles; and in one pattern, which is patented, a portion of the upper part of the blade is cut out by a die, and the handle fitted to match this exactly, and, like the other handles, is secured firmly in its place by screws. The handles are made of hickory and apple wood principally, though mahogany, rosewood, cherry, and black walnut are used to some extent.



VIEW OF THE H. W. PEACE CO'S "VULCAN" SAW WORKS, TENTH AND AINSLIE STREETS, E. D.

1,200 teeth per minute. The burr, or roughened edges, raised by shearing and toothing, are next knocked or rolled down. They are then hardened in oil, and tempered (a difficult and delicate process), a particular shade of color being required for the requisite temper. After the tempering, they go into the hands of the saw makers, to be hammered on an anvil as true as possible; they are then taken to the grinding shop, where each saw is ground for the purpose for which it is to be used. Most of the saws are ground on a machine, the saw passing between rollers to the grindstone, and passing out between other rollers on the other side. The jig and compass saws are ground by hand, the grindstones, in all cases, being driven by steam power.

The saws go next to the polishing shops, and, after polishing, are blocked (straightened by being hammered

The logs of these woods are first sawed into boards of the proper thickness, and then thoroughly steamed and dried. The handles are then marked out by pattern, and sawed out by band or jig saws, burred and filed into shape, smoothed by sandbelts and sandwheels, oiled and polished, and finally slit and bored ready to receive the blades.

In the manufacture of saws, the division of labor is carried to a remarkable extent, not in the production of different kinds of saws, as might be expected, but in the different processes required in the production of the saw. Each process is a trade by itself, and hardly ever does a mechanic pass from one to another. The usual divisions are saw-makers, saw-grinders, saw polishers and finishers, and saw-handlers; but even these are sub-divided; the man who

hammer and temper, as the saw has no knowledge of the processes of setting, filing, and tempering of the smithing and hammering; so that there are three distinct trades under the head of saw-making; in saw grinding, the man who grinds the saws on a machine cannot be transferred to the work of grinding them by hand. In the polishing department, the polisher cannot do the setting, filing, retempering or etching. He might do the grinding, which is effected by passing the polished and finished saw between hardwood rollers.

The saw-handlers have also several subdivisions. It is very rarely the case that a man has made himself a master of all the processes, as Mr. Harvey W. Peace has done, and is capable of superintending and directing each effectively. This is to be regretted, because it is a business which can only be conducted successfully by a man who is thoroughly familiar with every department of it, and who has, at the same time, the executive ability needed in the buying and selling, and the financial management of a large business, and the power to control large bodies of men successfully. Without these qualifications, failure in the end is inevitable. There have been many sad examples of this in Brooklyn, and the successive disasters have left the *Harvey W. Peace Company, Limited*, practically alone in this industry, their only competitors now being some small shops which make only one or two descriptions of saws, and from their limited means, the quality even of these lacks uniformity.

HARVEY W. PEACE.—Were we called upon to name one among the manufacturers of Brooklyn, who had, in early middle life, won for himself a high and honorable position as a manufacturer, solely by the exercise of industry, enterprise, and the mental abilities which fitted him for being a leader and employer of men, our first thought would be of the name of Mr. PEACE, as the most striking exemplar of the success which comes from the exercise of those qualities.

HARVEY W. PEACE was born in Sheffield, England, Aug. 19, 1831. His father and grandfather had both been brought up in the saw business all their lives. When he was yet very young, his parents removed to Dore, in Derbyshire, about six miles from Sheffield, but still retained their connection with the saw-works in Sheffield. Mr. Peace obtained his early education in Dore, but at the age of thirteen began to work, a part of the time, in the same manufactory with his father and grandfather. At the age of eighteen, he was a very skillful saw-grinder. At that time (1849), he came to America with his father and family, the father having received an invitation from Messrs. R. Hoe & Co., of New York, to take charge of the saw-grinding in their extensive works. In the establishment, young Peace remained for twelve years (except a trip to Europe, in 1857, for health and recreation). In these twelve years, he had become a complete master of his business, and with his industry, temperate habits, and economy, had been able to save a little capital, to start the business of saw manufacturing for himself. Accordingly, in 1861, in common need, in a small way, in Center street, New York, taking a younger brother as a partner. Finding their location not a good one, at that time (it was just at the beginning of the Civil War), they removed, the next

year, to Johnstown, Fulton county, New York, where they remained about a year. By this time, business—in some directions, and the manufacture of saws was one of them—had greatly revived, and was much better in the seaports than in the interior. Once more, therefore, they removed, and this time, to what proved a permanent location, to Ainslie street, Brooklyn. At first their quarters here were small and narrow, and proved so inconvenient that they moved to a better location on the same street, in 1867; the times were favorable for the development of an extensive business, and though averse to anything like speculative action, they went forward, “hasting not and resting not,” increasing with each year the quality and the quantity of their saws, till one building was added to another, and one kind of saws to another; and now (with the exception of the file-works of Mr. C. B. Paul, a friend of theirs, and one whose manufacture is an almost indispensable adjunct to their own), they occupy several lots in the block bounded on two sides by Tenth and Ainslie streets. They make every description of saws known to the trades, and for such as require handles or frames, they manufacture these necessary attachments. We have described elsewhere the processes of saw manufacture, the four classes of workmen, the saw-maker, saw-grinders, saw-handlers, and saw-finishers, and it only remains to be said here, that in all this great enterprise, employing a force of more than 200 men, and producing annually nearly a quarter of a million dollars' worth of goods, Mr. Harvey W. Peace has been the informing and controlling spirit; his judicious and enterprising managements has brought order out of confusion, success out of threatened disaster, and his house has now but two rivals in the United States in the extent of its production, and none in the quality and excellence of its wares. It is well understood everywhere, and among all classes of purchasers, that the stamp of “Harvey W. Peace” on any saw, or case of saws, insures the purchasers that the goods are of the very best possible quality.

In his relations to his fellow manufacturers, Mr. Peace has always been kindly and helpful; often taking large risks, to keep them from disaster, and where they have succumbed to the hardness of the times, furnishing them with employment in his own establishment till they could recover themselves.

In all the relations of civil and social life, Mr. Peace has shown himself a good citizen, a tender and kind husband and father, and a pleasant neighbor. Though not a member of any church, he is a regular attendant on the Methodist church—the church of his parents. In politics he is a decided republican, though never an office-seeker or office-holder. He wields a powerful influence in his ward, but has invariably refused to be a candidate for any public position. In regard to the tariff, he favors a moderate protection of our struggling manufactures, but insists that the duties should be taken off from raw material which cannot be produced here, and reduced on such raw material as is equally a product of our own and foreign countries; thus placing us on an equality with foreign manufacturers.

Mr. Peace, though heartily American in feeling and interest, does not forget that he first drew breath in England. He is an officer of the St. George's Society, and a hearty and cordial friend and helper of his countrymen. In other directions also, his liberal spirit exhibits itself, and he is a generous giver to all good causes.

Mr. Peace, and some of his skillful workmen, have designed and patented many of the machines for the purpose of grinding the various kinds of saws, as well



Harvey H. Pace

as for polishing, toothing, handling and graining saws. While this company make every description of saws known or demanded in the trade, their special attention is directed to the higher grades of carpenters' saws, band saws (some of these are fifty-five feet in length, and they vary in width from one-eighth inch to six inches), veneer and re-saw segments, and cross-cut saws. They employ from 150 to 160 hands, and their production ranges from \$200,000 to \$225,000 per annum.

Files.—There are a number of manufacturers of files in Brooklyn, but most of them have but small establishments. The largest are that of Mr. *Charles B. Paul*, whose factory adjoins that of the Harvey W. Peace Company, on Tenth and Ainslie streets, and that of Mr. *E. M. Boynton*, on Devoe street, who was a manufacturer of saws as well as files. The latter establishment is now closed. Four or five others are doing a moderate business in this line. The amount of capital required is much less than that for the saw manufacture; but the material must be of the finest forged steel, of the most perfect temper, and the cutting done by hand, and by workmen of the highest skill. There are, indeed, *machine-cut* files on the market, but for the purposes for which a first-class file is wanted, they are as yet of very little worth. There are many varieties of files and rasps—rat-tail or taper, round, square, flat, triangular, oval, half-round, cabinet, etc., etc. A catalogue before us specifies about thirty varieties, and fourteen lengths of nearly all.

The art of file-cutting is a very difficult one, and only acquired by long practice. A large proportion of the file-cutters are of English birth, though the younger men of American birth are now doing very creditable work. Like the workmen in the saw works the file-cutters adhere very rigidly to their own special division of the work. The cutter of three-cornered files will not attempt to cut rat-tail files, or even half-round ones, much less rasps of any description; and the cutters of these, in their turn, look with disdain upon the three-square file-cutters.

The census of 1880 reports 12 file factories, employing 96 hands, and producing \$68,509 of files annually. The report is both defective and redundant; redundant in the number of establishments, which does not exceed eight; and defective in the amount of product, which considerably exceeds \$100,000. Mr. Paul's output alone is from \$30,000 to \$40,000; and Mr. Boynton's was not much less, in this department of his business. The average number of hands employed by Mr. Paul is from 40 to 50.

SECTION IX.

Stamped or Drawn Wares, Tin and Sheet Iron Wares, Galvanized Iron and its Ware.

The production of stamped or drawn wares, by which is meant the formation, by means of continuous pres-

sure by a power press, and by suitable combination dies and blank-holders, of pans, dishes, pails, kettles, sardine, blacking, spice and other boxes, and by combination machines and dies, fruit, vegetable, meat and fish cans, petroleum cans and cases, and the lettering of these with any required name or address by dies, worked by the same machines, has become an important industry, and has almost entirely superseded the old process of manufacturing tin-ware. In some of these machines, the pan, pail, dish or can, etc., come from the machine complete; in others they require wiring, trimming and finishing, all of which is done with great rapidity on other machines. By the use of these machines the amount of production can be increased one hundred fold with the same number of hands. The process of *deep stamping* was first invented by a Frenchman of Metz (now Mayence) named Mix; it was considerably improved and introduced into this country by Messrs. Lalancé & Grosjean, who still manufacture, in Queens' county, these and their enamelled or granite wares on a large scale. Subsequent improvements were made in the machines, for stamping not only tin, but sheet iron, brass, zinc, copper, straw and card board, leather, etc., and the first extensive manufactory of these machines was started in Brooklyn in 1867, and subsequently greatly enlarged by Mr. E. W. Bliss, who is now the sole proprietor. Mr. Bliss does not manufacture stamped ware himself, but produces the machines by which it is made. The leading manufacturers of stamped wares are the refiners of petroleum oils, who make millions of cans, of a capacity of from one to five gallons, for exporting and transporting their oils; the canners of fruits, vegetables, meats, oysters and fish, whose consumption of the cans is immense; and the houses which are engaged in the production of household hardware. It is only because these petroleum oil cans, fruit, meat, vegetable, oyster and fish cans and boxes, and the lard pails, etc., etc., can be furnished so cheaply, and in such quantities, that the oil and provision trades and the canned goods trade have been so enormously expanded within the last decade, and especially within the last five years. These inventions have also rendered other industries largely prosperous, which but for these products of the stamping machines must have long since been abandoned as unprofitable.

It is not exceeding the bounds of truth to say that these products of machines manufactured in Brooklyn, and almost wholly by Brooklyn manufacturers, have increased our national exports to the extent of about fifty million dollars annually.

The leading manufacturers of stamped and drawn wares, as well as of other tin-wares, aside from the great manufacturers who make cans, pails, etc., exclusively for their own goods, are: *E. Ketcham & Co.*, *Fred. Halenstrom*, *Stiles & Dyer & Co.*, *William Ford*, *G. J. Hawk & Co.* and *Samuel L. Green*.

THE SUBJECT of this sketch was born October 18th, 1818, in the quiet village of Pennington, Mercer county, New Jersey. His parents were Enoch and Matilda Smith Ketcham, who are buried in the cemetery of the Presbyterian church of that place, where also rest the remains of seven successive generations of the family name. His earlier years were spent upon his father's farm, among the duties incident to such a life, with educational advantages of the most limited nature. Pennington was not then, as it is now, a noted seat of learning, and the only privileges, formerly given to the farmer's son, were a few weeks in the district school during the winter season, when services could best be spared from the work at home. While yet a youth Mr. Enoch Ketcham left the old homestead to learn the trade of a carpenter; and, after serving a full apprenticeship, worked for a while at Newark and Morristown, in his native state. In 1844 he began his mercantile career in Cliff street, New York, entering in the lowest capacity, and soon rising, by industry and integrity, to a position in the firm. In 1849 he was married to Miss Eliza Van Auken, and resides still in the city of New York. Like his fathers, he has retained his connection with the Presbyterian church, being now a member of the Church of the Covenant, corner of Park avenue and Thirty-fifth street.

Mr. Ketcham is one of the oldest dealers in manufactured tin-wares in the United States. When he began in 1844, and during the first years of his business life, nearly all kinds of goods for house-furnishing were imported from abroad. But few were made in this country, and they were the common wares of the country tin-shop. He entered largely into the manufacture of such articles, his house always occupying a foremost position, and he, personally, recognized as a leader in the trade. Of late years the methods of producing these goods have been entirely revolutionized, nearly every process being wrought out by elaborate and expensive machinery. These improvements have given rise to various large establishments for the construction of such machines, which were entirely unknown before. The younger men in the trade can hardly appreciate the great changes that have transpired since Mr. Ketcham first undertook the building of his factory.

The firm of E. Ketcham & Co., at great expense, and with an enterprise seldom equalled in these days, constructed machinery under their own roof which can be had of dealers at the present time for very moderate amounts. Later firms have profited largely by the experience which the firm of E. Ketcham & Co. acquired only by long and tedious experiments.*

In the year 1857, in company with some other persons, Mr. Enoch Ketcham purchased the factory at the corner of South Second and Twelfth streets in Williamsburg, and organized the firm of E. Ketcham & Co., whose warehouses are at 96 Beekman and 58 Cliff streets, New York. This building, which at that time was quite meagre in its proportions, has since become of extensive size. It is built in the form of a hollow square, is five stories high, and arranged to accommodate the several departments of which it is composed. The stamping rooms are one of the main features of the place. Here articles of great depth are formed from one sheet or disc of metal, without seams or solder. It was in this branch that experiments were first put forth, the earlier efforts producing vessels of, say, half an inch in depth, and finally reaching from seven to ten inches, so that all cooking vessels may be made from single sheets of tin, or other sheet metal,

without the possibility of leaks.* There are many other departments in this factory, in which tin plates are manipulated in various ways and shapes, and then polished to a lustre equalling silver in brilliancy.

Somers Brothers have confined themselves to the production of lithographed or decorated cans, boxes, pails, etc., etc., in which they have a large trade.

THE SOMERS BROTHERS.—The brothers, Daniel M., Joseph L. and Guy A. Somers, among the best known of Brooklyn's manufacturers, are, though not of an old Brooklyn family, of one of the oldest families in the United States. The name has been for centuries known in England, and can be traced to the time of William the Conqueror.

The Somerses of America are descended from the family of John Somers, Lord Chancellor of England during the period of the War of the Roses. John Somers, the first of the name in America, emigrated from England in 165, and settled on a large grant of land in New Jersey, embracing Great Egg Harbor; Somers Point, a well-known locality, having been the place of his residence. He had contracted a runaway marriage with a French lady of much beauty, highly accomplished, and of distinguished social position in her native land. Previous to this alliance, the Somerses had been blonde men and women, with light hair. Partaking of the personal characteristics of this lady, her children and their descendants, to the present time, have almost invariably been dark of complexion, with the usual accompaniment of black hair and eyes.

John Somers had two sons, who were named Richard and James. The former had a son, named John, also a grandson of the same name, who located in Virginia in 1804, and who had a son named Joseph R. Somers, who had three sons (the subjects of our sketch) and a daughter, all of whom are residents of Brooklyn. They were born in the following order: Daniel M., March 20th, 1841; Guy A., July 31st, 1842; Joseph L., January 8th, 1844; and Mary Florence, June 1st, 1850. All of these are married and have families.

Col. Richard Somers, of the war of Independence, and a member of the Provincial Congress for 1775 in Philadelphia, was a grandson of the original John Somers, of New Jersey, whose brave young son, Richard, was born September 15th, 1778, and became a sailor, and rose to the rank of lieutenant in the United States Navy, and commander of the United States ship *Nautilus*. In the Algerine War, before Tripoli, on the night of September 4th, 1803, he voluntarily sacrificed his own life by blowing up the ship *Intrepid*, to prevent its falling into the hands of the enemy.

The great-grandfather of the Somerses of Brooklyn lost some ships during the Revolutionary War, and their grandfather lost four vessels by the fortunes of war in 1812-14. The Somerses of America were ship-owners for successive generations; but, during the last half-century, have drifted into other lines of enterprise. While of English and French descent, the Somerses of Brooklyn are thoroughly American, being of the sixth generation of their father's and of the fifth of their mother's family in the United States.

The firm of Somers Brothers was organized in 1869 by Daniel M., Joseph L. and Guy A. Somers, who, without capital or a local business acquaintance, began operations, in a small way, near Fulton ferry, Brooklyn, stamping metal goods for manufacturers. Gradually increasing their busi-

* The machinery used in the process is very fully described in the article on "Tin-ware," and "Dress Metal Wares," and in that on "Presses and Dies."

* It was in this establishment that milk pans, wash-bowls, dippers and the like were first made "seamless," since which time they are to be found in every city and hamlet of the land.



E. H. Loomis

ness, they removed, in 1875, to their present location, at the corner of Front and Pearl streets, near Fulton and Catharine ferries. About this time Mr. William H. Atkinson, a cousin, was admitted to a partnership in the enterprise.

The manufacture of brass and nickel-plated goods was introduced, and the business increased rapidly with each passing year, as the products of the factory became known in the market. In 1878, the firm began the manufacture of decorated tin boxes, for use as packages by manufacturers of proprietary articles. Although these goods are of comparatively recent origin, their success has demonstrated their great usefulness and popularity wherever they have been introduced, the demand for a complete and perfectly finished package in tin having been long recognized.

The great perfection which this firm has attained in the modern art of decorating tin has opened a new channel for making these goods. By a process peculiar to themselves, Somers Brothers prepare the surface of the tin-plate with various richly-colored enamels or japans, and print directly upon the surface of the same by the lithographic process, bringing out the finest lines with the greatest clearness, and giving it a perfect and beautiful finish. By their care and experience, they have advanced the printing to such perfection, that they are enabled to make a clearer and more artistic impression on their prepared tin than can be made by the same method on paper. After printing, another process is employed, which produces a finely enameled surface. Several days are required to finish these processes before the tin is ready to be manufactured into boxes or other articles; and the labels and other printed matter are imprinted on the tin-plate before it is made into the goods. These boxes present such an attractive appearance that the public, after using the contents, use them for general and household purposes, the indestructible label being regarded as one of the best modes of permanent advertisement that can be had.

From a small beginning, this enterprise has grown to be one of the most important in the city; and it is, without doubt, in the front rank of similar enterprises in the United States. The members of the firm are practically acquainted with the various departments of their branch of manufacture, and give to its details their personal attention, thus insuring an excellence in their goods that they could not hope otherwise to attain.

They have recently purchased a site for a factory on Third street, corner of Third avenue, upon which they are to erect a large and durable building for the accommodation of their rapidly increasing business.

Other manufacturers who are doing a good business are: *Brooklyn Mfg. Co., C. W. Butler & Co., Lorenz Grussier, Iron-Clad Mfg. Co., Peter Michels, August Nagel, Willaim Norris, Robert Schreick, Hugh Sullivan, Jas. H. Van Winkle, John Wilkens, Reinhard Wenz, and Thomas Heney.* It is somewhat remarkable, and we fear, not quite in accordance with the truth, that the census represents Brooklyn as the only large city in the United States, which is extensively engaged in the production of stamped or drawn goods. New York is reported as producing \$97,280 worth, and Brooklyn \$1,556,829, while no other large city reports them at all. It is probable, however, that in many cases stamped ware is included under the head of "tin, copper and sheet iron ware," though the manufacturing census of both New York and Brooklyn have re-

turns under both titles. The manufacturers of the drawing and stamping machines tell us that large houses in Portland, Me.; Wilmington, Del.; Baltimore, Md.; Buffalo, N. Y.; St. Louis, Mo.; San Francisco, Cal., and Portland, Oregon, manufacture oil, fruit, vegetable, provision, fish and oyster cans by hundreds of millions by this process, and that household wares are manufactured largely in the same way in Buffalo, Cincinnati, Chicago and St. Louis.

Tin, sheet iron, zinc and copper are manufactured in so many forms that it is not to be supposed that the drawing process can be applied to them all, but the ingenious manufacturers of these machines have devised the means for making almost everything which can be made by machinery; stove-pipes are made and riveted, the elbows formed perfectly, kettles, large pails, wash-boilers, steamers, hot-air pipes, copper kettles, baking and dripping pans, camp-kettles, etc., etc., are all turned out perfectly by machinery. Enameled wares are also manufactured by machine methods. The manufacture of stamped and other tin-wares in Brooklyn has nearly doubled since 1880. At that time there were reported of stamped ware six establishments, with \$870,000 capital, employing 1,010 hands, paying \$394,779 wages, using \$906,084 of material, and producing annually \$1,556,829. The tin-ware, copper-ware and sheet-iron ware trade, was represented as having 119 establishments (this must have included the traveling tinkers and dealers as well); with \$136,350 capital, employing 284 hands, paying \$150,331 wages, using \$346,867 of material, and producing \$619,134 of these wares. The aggregate number of hands then was 1,294, and the annual product \$2,175,963. This was exclusive of the production of the petroleum companies who employed in 1883 about 1,200 hands on their cans, and turned out goods which cost them about \$2,225,000; it was exclusive also of the large packing houses, whose production, though very considerable, cannot now be ascertained. The present business in this line in Brooklyn employs about 2,700 hands, and produces somewhat more than \$5,200,000.

The manufacture of *galvanized iron* for building purposes, and of *galvanized iron wares* for household and other uses, as for leaders, tubing, etc., etc., properly belongs with this class of manufactures. It has no separate item in the census, but there are three or four manufacturers who employ in all about forty or fifty men, and produce goods to the amount of over \$150,000.

Intimately connected with the manufacture of tin-wares is the production of *tin and lead, or spelter toys*, as well as the *sheet or cast iron toys*, mechanical toys, as they are termed, which in these days have so large a sale, and bring so much pleasure to the little ones. The tin, lead and sheet-iron toys are stamped out in halves, by machines of the same class with the dies

used in the manufacture of tin-ware. They are put together and soldered slightly by children, and then passed along to receive their appropriate coloring. These toys, which are of Yankee invention, have largely taken the place of the German toys, once so extensively sold here, being stronger, and better adapted for the introduction of the mechanisms for producing motion, sound, etc., and at the same time, cheaper. They are largely made from scrap iron and tin, and even the superabundant cast-away tin cans are utilized for the service.

The principal manufacturers of tin, lead, spelter and sheet-iron toys, are *Elias Durlach*, *Max Miller*, and *H. F. Loe*; of steam and mechanical toys, the *Union Toy Manufacturing Co.* and *Edward P. Ryder*.

From these to other toys and games the transition to wooden toys and boxes, to dolls, to indestructible toys, games and puzzles, to builders' blocks, to children's and dolls' carriages, and all other descriptions of toys, is easy and natural.

Mr. P. Sythoff is easily king in the department of wooden toys and boxes, though he has competitors; what *Messrs. McLaughlin Brothers* cannot furnish in the way of toy-books, indestructibles, pictorial illustrations, puzzles and games, might well go unfurnished. *Messrs. J. Goetz's Sons*, *Peter Hillenbrand*, *George Hodgett*, and *Frederick Scellenberger, etc.*, manufacture dolls and a great variety of children's toys.

But the children's benefactor is *Crandall*, "the imitable." His toys of all sorts, sizes and conditions; his dolls that talk, walk, sing, dance, jump and fly, and do everything almost that a human being can do; his mechanical toys, and above all, his velocipedes, bicycles, tricycles, quadricycles; his carriages for dolls of all conditions and ranks; his children's carriages, and everything else that can make a child frantic with joy, are not surpassed anywhere.

But *Mr. Crandall* doesn't make all his toys, and what is worse, those which he does make, are not made in Kings County; more's the pity, and so we cannot place him as we would be glad to do, among the Kings County manufacturers. But we make up for that elsewhere in this volume, where we speak of him as a dealer.

A young and enterprising house, now *Schwalbach & Obrig*, have recently commenced the manufacture of children's or baby carriages. *Mr. Alexander Schwalbach* commenced the manufacture of baby carriages in September, 1882, at 131 First Street, near Broadway, E. D. His capital was \$5,000; he employed ten men, and produced \$50,000 the first year. On the 1st of May, 1883, he took *Theodore Obrig* as partner, and extended the business, adding to it the manufacture of reed and rattan furniture, establishing for this purpose a new factory at 57 Fifth street. The wood work of their various articles they manufacture at Walton, Delaware county, N. Y., as does *Mr. Cran-*



SCHWALBACH & OBRIG'S FACTORY.

dall also; but the iron work, plated work, etc., and the putting together of their baby carriages is all done here. They are now employing 100 hands, and produce goods to the value of \$80,000. Their sales are both wholesale and retail. The firm are young, enterprising and energetic men, of a high sense of honor, and are bound to succeed.

The census gave the statistics of the manufactures of toys and games as 10 establishments, 388 hands, \$332,146 annual product. The number of establishments has not increased, but the number of hands is now 450, and the product, the manufacturers say, exceeds \$500,000.

SECTION X.

Builders', Mechanics' and Housekeeping Hardware, and Agricultural and Horticultural Implements and Machinery.

Hardware is a very comprehensive term, and includes machines, implements and utensils, wholly of metal, partly of metal and wood, wholly of the harder woods, or partly or wholly of porcelain, granite wares, and metal or metallic earths. Each of the kinds of hardware specified in our title may be of either material.

Builders' hardware includes hinges, latches, door-knobs, locks, keys, bolts, fasteners, door-chains, gong and other door bells, window catches and fasteners, trimmings for blinds, etc., etc. These may be of iron, brass, bronze, and some of them of porcelain or stoneware. Plumbers' and gas-fitters' hardware includes basins, faucets, chains, gas-burners and the simpler

tools of the trade, but not what are known as Gas-fitters' and Plumbers' supplies. These, too, are of porcelain or enameled ware, and of bronze or plated metal. Mechanics' hardware includes the simpler tools, axes, hatchets, planes, hammers, adzes, chisels, screw-drivers, tack-hammers, brad-awls, squares, compasses, scales, common saws, two-foot rules, measuring tapes, etc., etc. These are usually of metal and wood except the tapes, and some of these are of steel.

Agricultural and Horticultural hardware includes hoes, rakes, pitchforks, spades, shovels, garden trowels, scratchers, harrows, flower-stands, flower-pots, tree pruners, saws, trimming knives, hay knives, grass knives, sickles, scythes, cradles, flower trellises, &c., &c. Except the flower-pots these are all of metal and wood, or of wood alone. Housekeeping hardware embraces too many items to be enumerated here, but they will be recalled by our readers. In this department, iron, steel, bronze, plated metals, silver, wood of all qualities and degrees of hardness, porcelain, earthen or stone ware, and pottery of all grades, are the materials of which the utensils are made, and great ingenuity and inventive skill is displayed in constantly providing new articles and new patterns to supplement or to supplant those already in use. There is still another class of hardware goods, not made for general use, but to supply the manufacturers the parts of articles they manufacture. Thus, in the manufacture of tea-pots, tea-kettles, sugar-bowls, milk-cups, pitchers, drinking cups, card receivers, etc., of metal, whether planished tin, brittania, nickel, or white metal for plating, the handles, noses, spouts, etc., etc., are not cast or moulded with the vessel, but are cast separately, and soldered to the vessel very deftly and delicately, and, if it is subsequently plated, the seam or joint is invisible.

All these descriptions of hardware are manufactured in Kings county, although hardly any two houses produce the same kind of goods.

The builders' hardware is very much divided. Door-knobs, drawers and bolt-knobs, insulators, and everything which can be made of porcelain is manufactured by the *Union Porcelain Works*. Bronze hinges, knobs, latches and trimmings are made by *Charles Mellish*, and we believe also by the *Ansonia Clock Co.* Many of the more ornamental of these articles in bronze and brass are also made by Mr. W. G. Creamer, at the *Brooklyn City Foundry*, and by some of the brass foundries. The more common articles, are made by the small founders and machinists, and the locks, keys, gongs, etc., by the lock manufacturers. *Williams, White & Co.*, Nostrand and Flushing avenues, make everything in this line except the bronze goods. They employ about 65 hands, and produce \$65,000 to \$70,000 a year. *Farrington & Whitney* are in nearly the same line, and do about the same amount of business. We think they make some bronze goods. Other manufacturers are: *Bohanan, Breckler, Deitz, and Eble*.

The plumbers' hardware comes from *L. B. Brown & Son, J. Conestry, G. D. Kaylor & Son, H. M. S. & Co., Ronalds & Co., W. H. Storey, and B. E. Valantine*, and the gas-fitters from the *F. P. Gilman Manufacturing Co.* There is nothing in the builders' or plumbers' and gas-fitters' hardware, nor in any other department of the builders' or decorators' art, required for the construction of the finest public or private buildings in Brooklyn, which cannot be furnished, of as excellent quality and as tasteful form, by the manufacturers of Brooklyn as by any other city in the world.

The mechanics' hardware comes from various sources. The saws are furnished by the *Vulcan Saw Works*, by *C. W. Dunlap*, and several other parties; the files by *C. B. Paul* mostly; the hammers by *C. W. Dunlap, H. L. Judd & Co., Williams, White & Co.* and others; the squares, two-foot rules, etc., by *T. J. Lorge & Son*. The measuring tapes by *George M. Eddy & Co.*, etc., etc.

We will speak of agricultural and horticultural hardware a little farther on. The largest manufacturer of housekeeping hardware in Kings County is *Charles W. Dunlap*, whose catalogue shows a very great variety of items. He confines himself, however, mostly to those articles which are of iron and steel combined with wood, or of metal only. His list contains 275 items. The tin household wares, and those of enamelled or granite coating, are furnished by the tin manufacturers, like *Ketcham & Co., Halberman, Hely & Co., Ives, Somers Bros.*, etc., etc., etc.; the hollow-ware castings by *John Sandaver, Gedney & Nungesser*, and other small founders; and the wood hardware by *H. H. Belkows, Christopher Fitter, George Kessel, William A. Vredenburg*, etc., etc.

The *Halsted Manufacturing Co.* are engaged exclusively in casting handles, ears, noses and spouts to metal goods for household use, a large business in itself. *Oakley T. Lee* manufactures hardware specialties, such as gong-bells, spiral springs, etc. Several of the other hardware manufacturers are similarly engaged.

SUBSECTION I.—Agricultural Machinery and Implements.

This industry, which at one time was a large one in Kings County, has now nearly ceased here, in consequence of the greater facilities for obtaining the wood, iron and steel (which are the principal raw materials required in the manufacture) at points farther west, and in regions easily accessible to great forests and iron mills and furnaces.

The *Agricultural Machine Works*, in Plymouth street, were established by R. H. Allen, Esq., in 1854, and for a score of years or more carried on a very extensive business, requiring a steam engine of 100-horse power to drive their machinery, employing 250 men, manufacturing not only mowing and reaping machines,

but a general line of agricultural implements. But the great development of manufactories for these machines in Syracuse, Buffalo, Batavia, Cleveland, Toledo, South Bend, Chicago, etc., etc., and the increased cost of their production here, led Messrs. Allen to remove their factory, about five years since, into the interior of the State, and rent their building and power to other parties, for manufacturing horse trucks, wheelwright work, etc. There are two or three other manufacturers of agricultural implements in the county, but their business is small; the census reported but one in 1880. Of these the largest is Messrs. *Edmiston & Waddell*, in Brooklyn, E. D. *R. Grammich's Son*, whose works extend from 103 North First to 64 North Second street, in the Eastern District, has also been in the business since 1874. His production is about \$10,000. Of the horticultural tools, *C. W. Dundap* manufactures a full line. The statistics of the hardware manufacture in Brooklyn in the census of 1880 were 34 establishments; \$432,550 capital; 441 hands employed; \$193,186 wages paid; \$401,251 material used, and \$750,297 annual product. It is so difficult to define what shall be classed as hardware, and there are so many firms, a part of whose production may be classed as hardware and a part as something else, that it is impossible to say whether these statistics are approximately correct or not. The production has certainly not decreased since 1880.

SUBSECTION II.—*Refrigerators.*

The general use of refrigerators, which may preserve the ice from too rapid melting, is of recent origin. It is not yet fifty years since the collection and distribution of ice for family use became a business sufficiently large to be profitable. Now one of the great ice companies has its wagons traversing every street of Kings and New York counties; has a capital of over three millions of dollars, and has an annual income of between five and six millions, and employs more than two thousand men in distributing the ice. Other ice companies do a smaller but still a profitable business.

All of this vast traffic in ice creates a demand for refrigerators, from the great refrigerating room of the large provision dealers and hotels, and the refrigerating vats of the breweries, to the smaller and less costly family refrigerators and ice chests. Every large city has its refrigerator manufactories, and of a great variety of patterns; every hardware and house furnishing store, has the agency of from one to a half dozen manufacturers, each claiming to be the best.

Refrigerators are of varied construction, but the most effective embody the following principles, viz.:

(1). The ice in a chamber at the top of the refrigerator; (2). A perforated rack or false bottom to the ice chamber; (3). A guarded entrance of the outer air, so that it will pass over and around the ice to the space under the rack; (4). A drainage on each side of

the refrigerator, of the water from the melted ice, in such a way that it will extend along the sides and back, and keep the air between the lining and outside of the refrigerator, at a temperature not above 33° F., and finally be concentrated by a sloping groove to the vent or outlet; (5). By this means the air in the refrigerator will be kept constantly dry, and of a temperature not above 35°, at which temperature no decay or fermentation is possible; (6). It is desirable that the external surface of the refrigerator should be painted with a water-proof and fire-proof paint, which shall prevent the introduction of hot air or moisture through the pores of the wood.

Such a refrigerator will be economical in its consumption of ice; the cold air in it will be dry, and of a temperature, extraordinary excepted, not exceeding 35° F.; it will neither freeze the articles placed within it, which would impair their quality, nor convey moisture to them, which would in most cases, cause their destruction. The refrigerators in the markets approximating to this standard most nearly, are those which are most desirable; those departing from it in any essential particular are to be avoided. Without denouncing any manufacturer or any pattern of refrigerators, it is still safe to say that two-thirds of those put on the market do not meet these requirements.

Our Kings County manufacturers, we are glad to say, do conform to these principles more nearly than any others within our knowledge. They are not perfect, and have yet some faults which they will correct.

Messrs. *Cooper & McKee*, of 115-119 Gwinnett street, are the oldest and largest house in the trade, Mr. McKee having been engaged in it since 1875, and Mr. Cooper being previously of the house of McGill & Cooper. Mr. *McGill* is now established in McKibbin street. Both houses manufacture many styles of refrigerators, but aside from the ice chests, give the preference to those having the ice chamber at the top. Their drainage is very perfect, and their cupboards are dry and sufficiently cold to keep provisions well. They are moderately economical of ice, though some improvements, introduced the present winter, will make their reputation much higher in this respect.

The annual product of the refrigerator manufacture (exclusive of refrigerating machines), is about \$115,000; the number of hands employed is about 60.

SECTION XI.

Silver-Plating and Silver-Plated Wares.

The only item in the tables of the manufactures of Brooklyn put forth in the Tenth Census, which can have any reference to the business of silver-plating, is the title, *electro-plating*, and these are its statistics: number of establishments, 6; capital invested, \$10,650; hands employed, 30; annual amount paid in wages, \$9,371; value of raw material, \$3,630; value of pro-

ducts, \$21,632. It is to be remembered that the term "electro-plating" includes copper-plating, and nickel-plating, and electrotyping, as well as silver and gold plating. The number of houses engaged in the first three of these descriptions of electro-plating is not less than ten or twelve, and one of the nickel-platers alone, does more than five times the amount of business, and produces five times as great a value of goods as the census assigns to the whole six electro-platers.

But we are not now fighting the battles of the nickel-platers, or copper electro-platers, or electrotypers against the Census Office; we have only to consider in this place, the *silver-platers*. Of these, the Directory of 1882 gave the names of eight firms; that of 1883 reduced the number to five. Of these six in the former year and three in the latter are merely re-platers and repairers in a small way, who are unable to do any large pieces, or even any small ones, requiring the use of moulds or machinery, but bring them at once to the large manufactories; one is engaged in the manufacture of door-plates, silvered knobs, and articles of hardware and plumbing necessity, which require plating. It is not absolutely necessary that he should resort to the electro-plating process at all; but as there is some economy in it, the probability is that most of the articles are electro-plated. The other house which is engaged in silver and gold plating, has undertaken the manufacture of that almost infinite variety of goods, which, though they are not all hollow, yet are known to the trade as "hollow wares." These include ice-pitchers, flagons, wine and beer pitchers, communion services, tea services in great variety, castors, card receivers, oyster dishes, tureens, silver bowls and cups, butter dishes, with and without covers, fruit holders, etc., etc., etc. They make no flat ware, such as knives, forks and spoons, except the fancy fish and fruit knives, and the spoons for especial use, such as sugar spoons, olive, salad and other ornamental spoons and wares, more largely used in wedding presents than for any more practical purpose. This house, Messrs. E. G. WEBSTER & BROTHER, takes rank among the seven or eight great manufacturers of silver-plated wares in this country: the Meriden Britannia Company; Reed and Barton; Simpson, Hall and Miller; the Meriden Silver Plate Co.; the Middletown Silver Plate Co.; the Wilcox Silver Plate Manufacturing Co., and we believe also one large house in Cincinnati and another in Chicago.

Commencing in a small way in New York city, just after the war, as the successors of Asa Rogers and William Dupree (Mr. Rogers being one of three brothers whose names are thoroughly identified with the early history of electro-plating in this country), they made wares of such excellence as to create a demand for their goods greater than they could supply. They removed to Brooklyn very soon, and after several experiences of too straitened quarters, erected their present fine six-story warehouse, of which we give a view in



E. G. WEBSTER & BRO.'S SILVER-PLATING WORKS.

this page. Messrs. Webster not only own the building, which occupies about one-half of the block, but the adjacent lots, which gives them a complete command of all the light and air they need on each side of the building: a matter of great importance in the manufacture of silver-plated wares. In this great establishment they employ an average of 135 hands, paying annually about \$65,000 in wages, and producing silver and gold plated wares of the value of \$275,000 to \$300,000.

A tour through their works reveals much that is very interesting in this manufacture. We begin with the basement, where the raw material, which is to be transformed into articles of such beauty, is stored. And now, before we look into the innocent-seeming kettle in yonder brick furnace, let us indulge in a little philosophical and historical explanation. In the early days of plated ware, before the electroplating methods were discovered, the basis of all plated goods for table use was copper, and these wares were made mostly in England, and exported to this country. After a while a whiter and somewhat cheaper basis was sought for, and this was found, at first, in that compound of varying proportions known as German silver, or more recently as nickel silver. This is a compound or alloy of nickel and brass in different proportions. Sometimes tin is added; generally, in practice, the amount of nickel is small, and of brass large, for economical and other reasons. For what is known as flat ware, forks, spoons and knife handles, this is a very good compound, not, perhaps, the best possible, but though it is liable to the offensive brassy odor, it is better than a softer and more easily worked metal. But for wares of more ornamental value, it was early seen that a more flexible and easily moulded and turned metal, which should be of the silver color, would be better, and nearly all the large manufacturers are now agreed in using a composition known as Britannia or Albata, whose composition is mainly of pig tin, of the quality known as Straits or Malacca tin, with a moderate percentage of copper, and a still smaller one of antimony. The tin is flexible, and

and the antimony hardens it and makes it take sharper and cleaner impressions from the dies or moulds which are used in the ornamental portions, and the handles, &c., of such of

This composition is more easily oxidized or discolored than silver, but its color varies very little from that metal. In the basement of Messrs. Webster's factory we shall find kettles of this metallic compound melted and so thoroughly amalgamated as to form a perfectly homogeneous mass. From the kettles they are run into moulds, and come out in plates about 10 inches wide, 15 long and not far from an inch in thickness. These plates are next rolled to the desired thickness for the wares which are to be made. Those sheets of rolled metal which are to be made into waiters, trays, &c., are subjected to the stamping, or rather, as it is now called, the drawing process, and by dies of hardened steel, often engraved with beautiful decorations, are forced into the graceful forms in which we find them. When they are removed from the presses they are liable to be warped, but by a very simple but ingenious device they are restored to a perfectly flat and regular shape. A metallic table, having a perfectly level and smooth surface, is heated to a given temperature, and upon this table the refractory trays are placed, and by the influence of the heat are so completely straightened that they will touch the table at every point of their under surface.

The sheets of metal, after being drawn through the rollers, are of different degrees of thickness, according to the purposes for which they are required. If they are to be made into tea-pots, coffee-pots, sugar-bowls, ice-pitchers or vases, they are cut into circular disks, from 10 to 15 inches in diameter, and are placed in lathes revolving with a speed of 3,500 revolutions in a minute; and a wooden form or block approximating to the general design which is desired being placed as a guide in the lathe, the skilful workman applies the metallic disk to the lathe, and by the adroit manipulation of a tool, somewhat like a burnishing tool, forms it into the required shape, and with a beautifully polished surface. The ring at the top is attached and held by a projecting lip of the metal, which is turned down by the tool. If it is to be embossed or ornamented, this is done by means of an embossing press with matching dies. If it is to have the hammered finish, this is done by hand, and both the embossing and hammering are done by women, and done admirably well. The engraved and chased work is executed by men, not because it could not be done as well by women, who possess the same artistic skill, but because these are not easily found. It is a noticeable fact, that in the manufactures of Kings county, the field of labor open to women is steadily expanding, and that their wages, for the higher classes of work, are approximating to those of men in the same positions. A more thorough training in the arts of design would result in a still greater enlargement of their sphere of action. But to return to our wares. The handles, spouts, rings, &c., of the various articles of hollow ware are cast and soldered on to their respective vessels. The moulds in which they are cast are expensive, and the patterns are constantly changing. "If I could have the money those moulds have cost me," said Mr. Webster, as he opened a cupboard filled with these patterns, "I could retire from business on an ample fortune." The mould, which is of brass or bronze, is made in halves, hinged together, and each has an upright tube when closed, into which the molten metal is poured. The metal in contact with the side of the mould chills first, and the moulder, as the metal is poured in the metal, tips the mould and lets the liquid metal in the centre run out. Were this delayed for two seconds, the handle or spout would be solid instead

of being hollow. When cooled, these handles, spouts, &c., are cleaned, filed and trimmed, and then soldered on the vessels. The bases of the teapots, sugar bowls, &c., which have been turned on the lathes, are also soldered on, and the articles are scoured and cleaned for the silvering, which is applied in a magneto-galvanic bath. The gilding of the inner surface of cups, vases, &c., is performed by a different process, though still magneto-galvanic. When the vessels are taken out of the bath, they are of a creamy or *ecru* color. This is removed, either by scrubbing or by scouring upon a fine emery wheel, and the silver surface appears. This is burnished, or buffed, or polished on a wheel, or by a particular process a satin surface is produced. The manufacturers' stamp is put on, and the thickness of the plating is specified. Awhile ago the purchasers were satisfied with duplex plate; then nothing but triplex would answer, and now the rage is for quadruplex plating; one enterprising house, seeking to distance all its rivals, announces "sextessimal plating." It does not matter; all grades are plunged in the same silver bath, and kept there for the same time; and the triplex plate is just as thick as the sextessimal. The plated wares are now ready for packing, or for storing away in dark chests till they are ordered, and Messrs. Webster & Brother find it difficult to keep up a sufficient supply of all the numerous articles on their illustrated catalogue to fill their orders promptly. This enormous demand for articles of luxury, while very gratifying to the manufacturers, is another of the many evidences of the extravagance of our times, especially in our own country.

A few words now of the *electroplaters*, *electrotypers*, and *nickel-platers*. The last-named branch of the business has had a rapid development during the last three or four years. The nickel-plated trimmings are found in all buildings, stores, offices, railroad cars, steamboats and steamships. The very slight oxidization to which the nickel is subject makes it very desirable for many uses; our five and three cent coins are almost pure nickel, and the Mexican Government has decided recently to make its subsidiary coin wholly of it, and to issue certificates payable for duties based on it. Our nickel-platers in Kings County in May, 1883, were five in number, and were all doing a good business, employing about 100 hands, and producing in all over \$100,000 of goods. The other companies or firms engaged in electroplating or replating silver and copper, and the electrotypers, numbered together eight establishments, employing about 70 hands, and producing nearly \$80,000.

We may safely put down the whole business as producing more than \$450,000.

Having thus canvassed all the branches of industry in Kings County connected with the manufacture of materials in whole or in part, let us now sum up the number of hands and the total annual out-put, so far as they can be estimated.

A careful footing makes the number of hands employed 14,300, representing more than 57,000 dependent persons, and a total production of \$24,823,000.

When we consider that here are no large yards for building steamships, no great marine engine or loco-

motive works, no furnaces for the production of pig iron or steel, this amount of production appears to be very large, and shows the resolute and persistent industry of our metal-workers.

SECTION XII.

The Manufacture of Paints, Varnishes, etc. 1. White Lead and Its Professed Substitute—Linseed Oil. 2. Painters' Colors, Dry. 3. Paints in Colors and White, Mixed with Oils or Other Ingredients. 4. Varnishes. 5. Whiting and Paris White, and the Art of Kalsomining.

The manufacture of paints, varnishes, etc., in Kings county does not include what are known as tube or artists' colors; for though one of the largest of our paint manufacturing houses does produce these, their manufactory of them is in New Jersey. But all the descriptions of paints which are used on surfaces of wood or iron, or other metals, and all kinds of varnishes used on wood, metallic or paper surfaces, are made here, as well as all descriptions of dryers. All the so-called mineral paints are made or refined for use here, as well as the linseed and other oils, and the refined spirits of turpentine which have so large a measure of use in all descriptions of painting.

The whiting, paris white, white oxide of zinc, glue, and other constituents of the wash known as kalsomine, alabastine, etc., are also either made or prepared for use here.

The subject is consequently one of great compass and extent.

SUBSECTION I.—*White Lead.*

Let us take up each department of the manufacture in its natural order. With the exception of the coarse paints applied to rough surfaces of iron, wood or stone for their preservation, which may be of coal tar, red lead, lime, or other articles, all paints used in house painting and ornamental work have either white lead or the white oxide of zinc, either pure or adulterated, as their basis. What is white lead, and how is it prepared? It is a carbonate, or perhaps a carbonate and a white oxide of lead mixed, and is obtained in the form of a very white and heavy powder. It mixes readily with oil, giving to it a drying property, spreads well under the brush, and perfectly covers the surface to which it is applied.

It is not only employed alone as the best sort of white paint, but, as we have already said, is the general material or body of a great number of paints, the colors of which are produced by mixing suitable coloring matter with the white lead. Besides its use as a paint, it is also in demand to a considerable extent as an ingredient in the vulcanized india-rubber. To prepare it the purest pig lead, such as the refined foreign

lead and the metal from the mines of the western states, is almost exclusively used. This was by the old methods made in thin sheets and these rolled into small rolls to be subjected to the chemical treatment. But according to the American method devised by Mr. Augustus Graham, of Brooklyn, and now generally adopted, the lead is cast into circular gratings or "buckles," which closely resemble in form the large old-fashioned shoe-buckles, from which they receive their name. They are six or eight inches in diameter, and the lead hardly exceeds one-sixth of an inch in thickness. Ingenious methods of casting them are in use in the American factories, by which the lead is run upon moulds directly from the furnace, and the buckles are separated from each other and delivered without handling into the vessels for receiving them. They are then packed in earthen pots shaped like flower-pots, each of which is provided with a ledge or three projecting points in the inside, intended to keep the pieces above the bottom, in which is placed some strong vinegar or acetic acid. It is recommended that on one side the pot should be partially open above the ledge, and if made full all round, it is well to knock out a piece in order to admit a freer circulation of vapors through the lead. In large establishments an immense supply of these pots is kept on hand, the number at one of the Brooklyn works being reckoned at not less than 200,000. They continue constantly in use till accidentally broken below the ledge. Being packed with the buckles and the acid, they are set close together in rows upon a bed of spent tan, a foot to two feet thick, and thin sheets of lead are laid among and over the pots in several thicknesses, but always so as to leave open spaces among them. An area is thus covered, it may be twenty feet square or of less dimensions, and is enclosed by board partitions, which, upon suitable framework, can be carried up twenty-five feet high if required. When the pots and the interstices among them are well packed with lead, a flooring of boards is laid over them, and upon this is spread another layer of tan; and in the same manner eight or ten courses are built up, containing in all, it may be, 12,000 pots and 50 or 60 tons of lead, all of which are buried beneath an upper layer of tan. As the process of conversion requires from eight to twelve weeks, the large factories have a succession of these stacks, which are charged one after another; so that when the process is completed in one, and the pots and lead have been removed and the chamber is recharged, another is ready for the same operation.

The conversion of metallic lead into carbonate is induced by the fermenting action, which commences in the tan soon after the pile is completed. The heat thus generated evaporates the vinegar, and the vapors of water and acetic acid rising among the lead oxidize its surface and convert it externally into a subacetate of lead; at the same time carbonic acid evolved from the

the acetate among the lead and transforms the acetate into carbonate of the oxide, setting the acetic acid free to renew its office upon fresh surfaces of lead. When the tan ceases to ferment, the process is at an end, and the stack may then be taken to pieces. The lead is found in its original forms, but of increased bulk and weight, and more or less completely converted into the white carbonate. The thoroughness of the operation depends upon a variety of circumstances; even the weather and season of the year having an influence upon it. The pieces not entirely converted have a core of metallic or "blue" lead beneath the white carbonate crust. The separation is made by beating off the white portion, and this being done upon perforated copper shelves set in large wooden tanks and covered with water, the escape of the fine metallic dust is entirely prevented and its noxious effect upon the health of the workmen is avoided. In Europe, rolling machines closely covered are applied to the same purpose, but less effectually. The white lead thus collected is next ground with water between mill-stones to a thin paste, and by repeated grindings and washings this is reduced to an impalpable consistency. The water is next to be removed, and, according to the European plan, the creamy mixture is next turned into earthen pots, and these are exposed upon shelves to a temperature not exceeding 300° until perfectly dry. Instead of this laborious method, the plan is adopted in the American works of employing shallow pans of sheet copper, provided with a false bottom, beneath which steam from the exhaust-pipe of the engine is admitted to promote evaporation. These pans or "drying kilns" are sometimes 100 feet long and 6 feet broad, and several are set in the building one above another. The liquid lead paste is pumped up into large tanks, and the heavier portion, settling down, is drawn off into the pans, while the thinner liquid from the surface is returned to be mixed with fresh portions of white lead. Beside pans, tile tables heated by flues in the masonry of which they are built, are also employed. From four to six days are required for thoroughly drying the white lead. This is the finishing process, after which the lead is ready for packing in small casks for the market.

The manufacture of white lead, which was formerly an unhealthy and even dangerous occupation, has been so much improved by the expedients for keeping the material wet and thus preventing the rising of the fine dust, that the peculiar lead disease now rarely attacks the workmen. The business is conducted altogether upon a large scale, and gives employment to numerous extensive factories in different parts of the country. Some of these have arrangements for converting-stacks that extend under cover 200 feet in length, and their facilities for grinding and drying are proportionally extensive. These, and the time required for fully completing the process and getting the white lead ready

for market—which is from three to four months—involve the use of large capital and tend to keep the business in few hands.

Very numerous have been the substitutes proposed for white lead; baryta, silica (pure or compounded), zinc, oxide or carbonate, etc., etc., but all have failed somewhere; and success is hardly probable in this century.

There is a vastly increasing demand for pure white lead, and the competition and watchfulness of the trade insure the genuineness of the article thus warranted by the manufacturers. For some years after the commencement of the manufacture it was the custom with the manufacturers to sell the white lead dry to the grinders, who then constituted a distinct trade, and who ground the lead in oil and mixed it with zinc, baryta, and other substances to suit their own purposes. These grinders sold to the house painters, and most of them dealt also in colors, which the painters mixed, and thus obtained the tints they desired.

This business is still transacted to some extent, but there have been material changes within a few years past. Some of the white lead manufacturers now also manufacture linseed oil (and this is particularly the case with one Brooklyn manufacturer), and it is now their practice to grind their white lead in oil themselves, and sell it in this condition. They are able thus to control the purity of their lead. Pails or kegs of white lead thus ground in oil, and bearing the brand of a firm of high character, can be relied upon as pure. On the other hand, if the dealer or painter requires an article which contains a percentage of white oxide of zinc, or of sulphate of baryta, he can be accommodated, but knows what he is purchasing exactly, and receives it as an inferior grade and bearing an inferior brand.

The grinders, too, have taken a step forward; they now not only grind white lead, zinc, etc., in oils, but they also grind, both dry and in oils, other colors, and mix them so as to produce a great variety of shades, every desirable one, indeed, and furnish them of uniform excellence. Some of them also, as we shall see further on, have devised processes for preventing these paints from drying up in their cans or pails.

The result of these changes is that now the white lead manufacturers sell their products either dry or ground in oil to the large dealers and the paint manufacturers only, and these sell to the painters.

The History of the White Lead Manufacture in Brooklyn is interesting. The manufacture originated in Holland; was not introduced into England till near the close of the last century, and was unknown in the United States until after the war of 1812. The first white lead works were established in Philadelphia, probably between 1815 and 1820; though there is a tradition that two previous efforts had been made in that city, that of Wetherell in 1796, and of Lewis in 1800. If so, both had failed very soon. The

works of Hinton and Moore, in Belleville, N. J., were founded in 1818, and the next was probably that of the *Brooklyn White Lead Company*, founded in 1822, and incorporated in 1825. This is believed to have been the third then in existence in the United States. When it was incorporated it had a capital of \$52,000. The brothers, John B. and Augustus Graham, were among the most active and prominent of its founders, and the latter was the inventor of several important improvements in the processes.

In twenty-six years (1851), it had grown into one of the largest, and perhaps the largest white lead manufactory in the United States. It occupied an entire block, 230x200 feet on Front street, between Washington and Adams; employed ninety men, and produced annually 2,500 tons of white lead, red lead, litharge, etc., valued at \$425,000. Meanwhile other white lead works had been established in Brooklyn. Among these were the *Atlantic White Lead Works* of Messrs. Robert Colgate & Co., and the *Union Works*, Front, corner Bridge. The works of the Atlantic White Lead Co. were established on Marshall street, near Gold, in 1845, where they are still conducted with great success. They were destroyed by fire in 1866, but were immediately rebuilt.

In 1851, the whole amount of capital invested in the business was over one million dollars; the united production from 8,000 to 12,000 tons, and the annual value of the product from \$1,200,000 to \$1,500,000.

It was publicly stated at this time that the production of white lead in Brooklyn exceeded that in any other town or city in the United States, and was nearly equal to that of all the rest of the country.

In 1860, the census officers reported in Kings county eight white lead works, with \$848,800 capital; using \$1,182,400 of raw material; employing 356 hands; paying \$137,340 annually in wages, and producing annually \$2,129,500 of white lead and other products. This was probably an understatement; but the returns of the census, in 1870, of the manufactures of Kings county were palpably wrong, as they were everywhere else.

There was no separate statement of "white lead," but under the head of "paints, lead and zinc," in distinction from "paints (not specified)," we have the following returns: Five establishments; 154 hands; \$433,500 capital; \$86,592 wages; \$690,280 of raw material used, and \$882,500 of annual product. We are sure that one of the establishments in Kings county at that time exceeded these figures, and that the whole number (there were four companies instead of five at that time) more than doubled it.

But, if these returns are grossly inaccurate, what shall we say of the census returns of 1880? No entry of the white lead manufacture was permitted. Mr. Frothingham made a return of "Paints, Lead and Zinc," in which he gave the number of establishments

as 28; the capital, \$1,542,800; the largest number employed at one time as 1,270; the amount of wages paid as \$577,128; the raw material used as \$1,762,000; and the annual product as \$3,447,900. This included all the manufacturers of dry colors, all the manufacturers of mixed paints, of which there were seven establishments, all the producers of mineral paints, and probably, also, those of whiting, Paris white, etc., as well as the white lead manufacturers. The amount of production was probably not very far from the truth, though it was impossible to separate in his tables the white lead manufacturers from the others. One of the white lead houses also manufactured linseed oil for their own use and for sale. Mr. Frothingham had included this in the list of their products. The census office, on the pretext that linseed oil was a distinct manufacture (which, however, they only included, if at all, among the "unspecified" industries), threw out the words "lead and zinc," and rejected, for no apparent reason, two of the establishments, making their returns as follows: Paints, 26 establishments, \$2,602,800 capital, 941 hands, \$478,376 wages paid, \$1,023,500 raw material used, and \$5,284,201 of annual product. It is hardly necessary to say that these statistics do not adequately represent the white lead, paint, color and whiting interest of Kings county, nor its linseed oil manufacture, which is as essential a part of the manufacture of paints and varnishes as are the colors themselves. The annual product given by the Census Office, while it more than covers the white lead interest, is far below that of the great paint manufacturers, several of which count their annual product by millions of dollars. In a letter from the Census Office, under date of March 12, 1883, they state the annual linseed oil product of Kings county as \$3,158,737. I have been unable to ascertain the process by which they eliminated this amount from the general returns of the white lead manufacture. The manufacturers themselves cannot give any account of it, and it is certain that some of the largest producers of mixed paints and varnishes here do not obtain their linseed oil from Brooklyn manufacturers. The whole return is but another lamentable instance of assumption of a knowledge on the part of officials which they did not possess, and demonstrates, what ought to be well and widely known, the utter worthlessness of the census statistics of manufactures.

Assuming, however, that this estimate may have been something more than a mere guess, we have a most remarkable development in the linseed oil manufacture here in the last decade. In 1860, the linseed oil produced in Kings county was reported as of the value of \$1,610,704, only \$30,000 more than the cost of raw material and amount of wages paid. In 1870, it was \$1,668,000, which was \$301,500 more than the raw material and wages. In 1880, \$3,158,737, or \$312,768 above the cost of raw material and the amount of wages. An analysis of these returns serves to show very conclu-

sively that they were only guess work, and the returns of 1880 seem to have been no better. Only two establishments are allowed, while more than that number certainly existed; the number of hands is given as 335, when in 1870 only 145, less than one-half that number, were reported, yet the 335 are said to have received only \$98,767 wages, while the 145 received \$100,000. The difference, which is supposed to indicate the net profit, was \$313,768; while in 1870, on about one-half the annual product, it was \$301,500, or only \$12,000 less. Clearly, there are blunders somewhere in these returns.

The manufacturers of linseed oil in Kings county are two; one of them, *Robert Colgate & Co.*, being also manufacturers and corrodors of white lead; while the other, *Campbell & Thayer*, manufacture the oil alone. The product is now a little less than the amount stated by the Census Office, though in some seasons it has been considerably more.

There are only four houses in Brooklyn which are properly manufacturers (*i. e.*, corrodors) of white lead. These are: The *Brooklyn White Lead Company*, founded in 1822; the *Union White Lead Company*, founded about 1842 or 1843; the *Atlantic White Lead and Linseed Oil Company*, founded about 1845; and the *Bradley White Lead Company*, founded about 1870. Of these, the Atlantic White Lead Company is considerably the largest, and is, indeed, with one or possibly two exceptions, the largest corrodoring house in the United States. The white lead business has not been prospering greatly in the East for several years past, and the out-put is considerably less than it was a dozen years ago. This is due to several causes; one, that several of the Western houses are connected with, or at least in the neighborhood of, the lead mines of Missouri and Iowa, or of the smelting furnaces where it is parted from silver, and so can procure their raw material cheaper than the Eastern manufacturers. There has sprung up, also, a certain demand for "sublimed lead" for painting purposes; this was first procured from the smelting furnaces, by the condensation of vaporized lead. There are objections to this product, from its comparative lightness and bulkiness, from its lack of body and its tendency to part from the oil, and rub off after a little from the wood or other surfaces to which it is applied; and its consumption is believed not to be materially increasing, but it has helped to depress the trade in the past. The largest house in this country, one at Cincinnati, started recently, which claims to make 15,000 tons of white lead annually, has been producing it by what is known as the "Shaw process," *i. e.*, by the direct action of carbonic acid gas upon the lead; but the result has been expensive and not satisfactory. The capacity of the four white lead companies of Brooklyn is about 18,000 tons of white lead, litharge, red oxide of lead or glass-makers' lead, etc., but the annual out-put of white lead

since 1880 does not much exceed 12,000 tons, or at \$6.75 per hundred pounds, the minimum price of white lead ground in oil, about \$1,620,000 of annual product, as against \$2,430,000 of possible out-put. The demand for the lead is increasing rather slowly, but the numerous new factories springing into existence increase the annual product beyond the limit of demand, and it is only by their capacity to carry heavy stocks of the manufactured lead that a reduction below the actual cost of production is prevented.

The manufacture of the so-called mineral and other patent paints which contain no white lead, or very little, help to make this business unprofitable. There are a considerable number of these mineral and other paint manufacturers, and their sales are large, though, in the end, their wares are not satisfactory.

The other so-called white lead manufacturers, of whom there are four or five, are not *corrodors*, but white lead *grinders*, generally in connection with other colors, which they also purchase and grind, dry or in linseed oil.

SUBSECTION II.—*Painters' Colors, Dry.*

The number of colors now used by house and sign painters is very large, amounting to several hundreds of different tints. Some of these are produced by combining colors, but there is now a possibility of procuring so many distinct shades of color from coal tar, petroleum residuum, etc., etc., that the necessity of hand-mixing of colors by the painters themselves has greatly diminished. Many of the fine colors are not produced here, but only ground in oils or refined for the painter's use. This is the case with such of the aniline and petroline colors, carmine, etc., as are used in painting. There is not yet, in Brooklyn, any manufacture of aniline or petroline colors, though there are indications that there may be soon. But the more solid, as well as some of the fanciful colors, are largely produced here and others are isolated from the ores, minerals, metals, and earths with which they are combined, and made ready for immediate use. The largest houses engaged in the production of dry colors are *Adolphus B. Amsbacher*, and *Sondheim, Alsberg & Co.* There are three other houses which manufacture dry colors, to a moderate extent; and two, or more, of the great paint manufacturers grind and pack dry colors as a part of their business. One of the houses named above, though manufacturing chrome, arsenical and other choice colors largely, makes a specialty of Paris Green (Scheele's green, arsenite of copper), now so largely used by agriculturists for the destruction of potato bugs, army worms, etc., etc., as well as for an ingredient of paints, and for use on wall papers, and in some articles of clothing.

The manufacture of dry colors is said to exceed a million of dollars, but the manufacturers are very loth to give figures.



Leonard Richardson

SUBSECTION III.—*Color ground in oil, Colored Paints, and Mixed Paints.*

Several very large houses, as we have already hinted, have, within a few years past, created an extensive business in grinding colors in oil, and selling them in cans of various sizes, from one-fourth of a pound to five pounds or more, guaranteeing their purity and readiness for mixing with white lead, also ground in oil, or such other basis as the painter might prefer.

These houses also mix and grind these various colors with white lead, and thus make paints ready for immediate application; thus greatly facilitating the painter's work, and enabling householders who want but a small job done, to do it themselves. These houses generally purchase their white lead, or exchange mixed paints for it; and the paints, when mixed, have always given excellent satisfaction. Among the leading houses in this trade are *John W. Masury & Son*, *C. T. Reynolds & Co.*, *Wadsworth, Martinez & Longman*, *F. O. Pierce & Co.*, *John D. Prince's Sons*, etc.

LEONARD RICHARDSON, son of Thomas and Lydia Richardson, was born in Watertown, Middlesex county, Massachusetts, December 2d, 1832, and was the first-born of nine children, eight of whom are living.

Mr. Richardson's boyhood was spent on his father's farm, and he enjoyed the public school advantages peculiar to the time and locality; and was later fitted for college at Phillips' Academy, Andover, then under the management of Dr. Samuel H. Taylor, for whose friendly interest and care for his welfare as a youth, Mr. Richardson has ever cherished the liveliest feelings of gratitude.

At the age of eighteen, Mr. Richardson left home, going to New York to engage as clerk in the paint store of Reynolds, Devoe & Co., at 106 and 108 Fulton street, but boarding in Brooklyn with his brother-in-law, Chas. Pratt, Esq.; and it has been in Brooklyn that Mr. Richardson has had his home since that time.

The business of the long-celebrated firm, with whose interests Mr. Richardson thus early identified himself, was established in 1770 by William Post, who was succeeded by Post & Butler, and they by Butler & Reynolds, the immediate predecessors of the firm of Reynolds, Devoe & Co., who, in 1863, were succeeded by Reynolds, Pratt & Co., who gave place, in 1867, to C. T. Reynolds & Co., a firm composed of Messrs. C. T. Reynolds, T. B. Hidden, Leonard Richardson, E. L. Molineux and A. Rich. E. H. Reynolds has, during the present year (1883), acquired an interest in the business, in which Mr. Richardson's partnership dates back to 1858.

It was during the period of the interest in the concern of Mr. F. W. Devoe (now of the firm of F. W. Devoe & Co.), that Mr. Richardson, then a young man, developed that peculiar adaptability to the business that has since caused him to be regarded as, without doubt, the best manufacturer of colors and paints in this country; and he relates that it was Mr. Devoe who was first to recognize his talent for this branch of the business, and advance him therein; and, during the many years of success which have followed one another into the past, since then, Mr. Richardson has never ceased to regard Mr. Devoe with that grateful feeling which he believes is due from him to the friend of his youth.

The paint trade and manufacture, when Mr. Richardson's connection with it began, was in its infancy in this country,

only small quantities being made by hand, and the bulk of the painters' materials in greatest demand being imported. He has seen its development into one of the leading industries of the country, employing thousands of skilled workmen, and based on millions of capital, and its advancement, under a protective policy, to a point where the importation of painters' materials has practically ceased, and an enormous demand, caused by the steady development of the previously unsettled portions of the United States, supplied almost wholly by domestic manufacturers, among whom his firm takes high rank, both for the excellence and quantity of its products, which find a ready sale everywhere.

The firm of C. T. Reynolds & Co. have an extensive paint and putty works in Brooklyn, a large varnish and color factory at Bergenpoint, N. J., and an immense paint and putty works in Chicago, with large stores at 106 and 108 Fulton street, New York, and 21 Lake street, Chicago.

In 1858, Mr. Richardson married Miss S. Louisa Cole, and they celebrated the twenty-fifth anniversary of their marriage at their residence, 1190 Dean street, Brooklyn, on Monday evening, June 25th, 1883. They have two sons and a daughter.

Politically, Mr. Richardson is a republican, but he has never been, in any sense, a politician, though his counsel and advice have often been sought by those high in authority. His interest in the clean administration of public affairs is equalled only by that which he has ever taken in educational measures.

His family are members of the Washington Avenue Baptist Church, of which Mr. Richardson is one of the trustees, and he has long been prominent in the management of its finances.

In all matters pertaining to the public good, Mr. Richardson takes a deep and abiding interest. His charity is bountiful, but never ostentatious; and in all the relations of life he is honored beyond a majority of his fellows. He is widely known in connection with important interests concerning the Baptist Church, and is at all times recognized as a liberal contributor to the pecuniary needs of the organization, and as a wise and safe counsellor in its deliberative assemblies.

A specialty in this line is the mixing of paints with gelatine, soluble india-rubber, or some other substance which keeps it suspended and prevents its drying up or forming paint skins. In this specialty there are several houses, each employing a different suspensory fluid. It is the opinion of the white lead manufacturers, and probably they have good reason for their belief, that these manufacturers of special paint use little or no white lead in their paints; at all events, only sufficient to justify their claim that they are partly composed of that substance. The *East River Paint Co.*, of which Messrs. Seeley Bros. are now the principal proprietors, are the leading house in this specialty, and do a large business. The *Ingersoll Paint Works*, and several others, are smaller in extent. Several of these houses claim to use a solution of india-rubber in their paints, thus preventing, they say, their fading or changing color.

There are also houses which manufacture coarser paints, and those which are used for roofs, for iron fences, beams and columns. These generally use the

mineral paints, or red lead, or paints mixed with coal tar, or something of the sort. Messrs. *H. D. Johns & Co.*, and one or two other houses, produce these paints.

It should be said, in regard to the manufacture of paints, that there are certain underlying principles which govern the manufacture of all genuine and satisfactory productions, whether as applied to wood or smooth metallic surfaces, which consist of three constituents, viz.: 1, The pigments; 2, The vehicles; 3, The thinners and driers.*

The two largest houses engaged in the manufacture of these mixed paints in Brooklyn are also the largest in the United States, or, for that matter, in the world. These are: Messrs. *C. T. Reynolds & Co.*, who have also a large interest in the white lead manufacture, being stockholders in the *Bradley White Lead Co.*, which supplies their white lead, and are engaged in the production of whiting and Paris white, and in the manufacture of artists' (tube) oil colors. Their mixed paints are of excellent quality, and command a large sale in all parts of the United States as well as abroad. Messrs. *John W. Masury & Son*, under the vigorous management of their efficient superintendent, Mr. Wolcott, have rapidly risen to the first rank in this manufacture. They confine themselves to paints and fine varnishes, and their goods in both departments are

* 1. The pigments are various; generally white lead (either pure or mixed with oxide of zinc, baryta or prepared chalk, or some of the earths) is the basis. This should be always the case with white and light colors, and with most of the darker ones, from its body or covering property.

Other pigments used in the mixed or colored paints are: *Yellows*.—Yellow ochre, chromate of lead, gamboge, etc.

Reds.—Red oxide of lead, vermillion, red ochre, oxides of iron, red oxide of copper, di-chromate of lead, carmine, carmine-madder, and other lakes, etc.

Blues.—Prussian blue, ultramarine, smalt, Thénard's blue, verditer, aniline blues, etc.

Greens.—Verdigris, Paris green, verditer, borate of copper, oxide of chromium, cobalt green, and green lakes, and very often a mixture of chrome yellow and Prussian blue, etc., etc.

Browns.—Umber, bole, terra di Sienna, bistre, sepia, etc.

Blacks.—Lampblack, bone-black, anthracite, graphite, etc., etc.

2. The Vehicles.—These are: 1. Oils, generally linseed oil, of late also, to a limited extent, cotton-seed oil, nut oil, and poppy oil, variously prepared, for the finest work. 2. Water, with glue or gum added. The last are essentially water-colors, and are mainly used on interiors, and for graining purposes.

The oil paints are first ground with a small quantity of raw linseed oil, to make the mixture homogeneous. This, as we have already stated, is now very largely done by the manufacturers. About eight per cent. of oil is added to white lead, 12 or 13 per cent. to zinc white, and various proportions, according to the amount of body of the different colors, and other considerations. Under the old system the painter mixed this for use with a further quantity of raw and boiled linseed oil, and colored it, to any desired shade, with colored pigments, which he obtained either dry or ground in oil.

Now, the painter can obtain his paints, of the requisite fluidity, and of any desired shade of color, all mixed to his hand, and there will be no variation in the shade if he has to paint a surface of ten thousand or fifty thousand square feet. The addition of oil and colors is governed by fixed rules, and the oils and colors are tested for purity before being used.

3. The paints require, in using, *thinners*, which are generally of spirits of turpentine or benzine, and also *driers*, or siccatives, which may be, according to the necessities of each peculiar case, sugar of lead, nitrate of lead, sulphate of zinc, verdigris, binoxide of manganese, red lead, japanners' gold size, and, most powerful of all, borate of manganese, ground in oil. The paints must be used immediately, or they settle, and paint skins form over them.

of the very highest quality. In the paint department, they grind the white lead and the colors dry and in oil, and are prepared to furnish them in both conditions. They also mix their paints with the requisite thinners and dryers, so as to be ready for immediate application. Messrs. *Masury & Son* procure their white lead mostly from Pittsburgh, exchanging their paints with the manufacturers for it. The range of shades of color made by these houses is very great, and the quality and color perfectly uniform. They have elevated the business to one of the fine arts.

All the paint manufacturers now put up their paints in cans and pails of all the sizes required by the large or small customers. The competition in regard to quality is as severe as that in regard to price, and as a consequence there is less adulteration in paints at the present time than in almost any other commodities.

SUBSECTION IV.—Varnishes.

The manufacture of varnishes is carried on to a greater extent in Brooklyn than in any other city in the Union, more than one-seventh in value of the whole production of the United States being made here, and the business has received a very great impulse since 1870. The statistics of the census of 1880 were: for the whole country, 81 manufactories, employing \$3,778,100 capital and 573 hands, paying \$366,716 in wages, using \$3,699,684 of raw materials, and producing \$5,721,174 annually. Of these the state of New York had 17 manufactories, \$1,395,800 capital, 143 hands, \$91,638 wages paid, \$1,028,705 raw material, and \$1,867,155 product. There were no varnish factories in New York city, but Brooklyn had 8, with \$716,800 capital, 73 hands, \$47,186 wages paid, \$353,205 raw material, and \$874,655 product. The present product for the whole country is believed to be about \$7,500,000, and for Brooklyn and Kings county, nine establishments, 150 employees, \$90,000 wages, and an annual product of over \$1,200,000.

The amount of *varnish* imported from all foreign countries in 1882 was of the value of \$116,132, and this included all the oriental lacquers and varnishes, as well as everything of European production, the whole amount being less than one-tenth of the Brooklyn product alone, and about one-fiftieth of the entire American production. The figures of 1883 on both sides would show a still greater difference.

In fact, our *export* of varnishes has, for some years, exceeded the import, being, in the year ending June 30, 1882, \$187,860, and having largely increased during 1883.

There are now nine manufacturers of varnish in Kings county, two having been added since 1880. We ought to say, perhaps, a few words here in regard to the different kinds of varnishes made.

Fixed oil varnishes, which are the kind most largely used, are prepared by mixing the fused gum resins with

a boiled and oxidized linseed oil, at a temperature of about 300° F., and added gradually with constant stirring.

The secret of those varnishes which have the highest reputation consists in the greater purity of the oil and gum resins, and the proportions which are used, rather than in any other ingredients. Asphalt is sometimes used for black varnishes, and India rubber or gutta-percha for the purpose of giving greater flexibility or elasticity in the working of the varnishes; but the finest varnishes are made from pure oil and pure gums.

Spirit varnishes are true solutions of the gum resins in alcohol (95 per cent.), or wood spirit of the same strength. The gums employed are sandarac, mastic, shellac, animé and copal. There are also colored spirit varnishes or lacquers, the coloring ingredients being tinctures of gums and gum resins, and recently aniline colors. The spirit varnishes are also used as driers for paints. They deteriorate by keeping, but as they are easily produced, this is not of so much consequence. They are not a staple article, like the oil varnishes.

Volatile oil varnishes are of considerable importance, especially in the fine arts; they are prepared from the finer gum resins and the volatile oils, spirits of turpentine being the usual solvent.

Ether varnishes are ethereal solutions of the gum resins, and have a very limited application, mostly confined to the jewellers and photographers.

There are also a variety of miscellaneous varnishes made for particular purposes by the parties who have occasion for them. These are not made by the varnish manufacturers.

Messrs. *Valentine & Co.*, Messrs. *C. C. Reed & Co.*, Messrs. *J. W. Masury & Son* and Mr. *G. C. Liszka* are the largest manufacturers of coach and palace car varnishes, of the best quality, for both inside and outside work, in Kings county. They also make lower priced varnishes for other purposes. Messrs. *Valentine & Co.* probably produce the largest amount, but the aggregate value is about the same as that of the other houses. Messrs. *C. C. Reed & Co.* claim, and, we believe, with justice, that they were the pioneers in the manufacture of fine coach varnishes in Kings county, and, perhaps, in the United States. They are still doing a very large business.

Messrs. *John W. Masury & Son*, under the leadership of their present general manager, Mr. Wolcott, have made a great advance in their business, and are now, in the quality and quantity of their goods, the peers of any house in the country.

Mr. *Liszka* is also a large manufacturer of very fine varnishes for these purposes. Mr. *Liszka* came to this country from England in 1873. He had been apprenticed to the varnish business in England, and made himself thoroughly master of the business, and brought from thence the formulas, under which he has produced most excellent goods. He believes these superior to

any others for coach work. Mr. *Liszka* has also invented and manufactures the "Terebine" and "Lac Liquid Dryers." He claims a capital of \$100,000 invested in the business, employs 50 hands, pays \$10,000 wages, and reports an annual product of \$200,000.

Of the other varnish manufacturers of the county, Messrs. *William D. Chase*, *Patrick Booden & Son*, *George S. Wood & Son*, as well as the more recently established houses, *Möller & Schumann* and *John F. Cornwell*, all make varnish of excellent quality, and the demand for their goods is already large, and rapidly increasing.

Messrs. *Booden & Son* give special attention to gold-sizing, flock-sizing and bronzing for the manufacturers of wall papers.

SUBSECTION V.—Whiting and Paris White.

These articles, for which there is a large demand, are not quite identical, though often used interchangeably. *Whiting* is a prepared and refined chalk, brought from the chalk cliffs of England in a crude state, or from chalk beds in our own country, and ground, washed and precipitated in a pure state in factories here. *Paris white* may be from the chalk beds of France (in the Paris basin); and if so, is somewhat softer than the English or American article, and is a finer and more nearly impalpable powder when refined; but a considerable portion of what is sold as the best Paris white is a finely powdered sulphate of baryta, which, for some purposes, is preferable to the chalk.

The substitution in these days of *kalsomine* and *alabastine* for the old-fashioned lime whitewash has created a great demand for whiting and Paris white, while their employment for cleaning silver, gold, brass and copper has fallen off, electro-silicon and other articles having largely taken their place. There is also a moderate use of the prepared chalk (*creta preparata*) in medicine, though this is smaller than formerly. The *kalsomine* is generally a preparation of whiting or Paris white with white glue for the walls of houses. It produces a brilliant surface, does not rub off easily, may be tinted of any required color, and receives paint over it with advantage, the *kalsomine* filling the little cracks, checks or pin holes of the plaster. At first *kalsomine* was made with the white oxide of zinc (and perhaps derived its name by corruption from *calamine*, the zinc oxide); but it was very soon found that whiting or Paris white was equally good, and very much lower in price. Where the Paris white is composed wholly or in part of sulphate of baryta, it is for this purpose fully equal to the zinc. The zinc tradition was maintained by the *kalsominers*, long after its use had been given up, to extort a higher price from the customers, on the plea of its greater cost. The largest producers of whiting and Paris white in Kings county are Messrs. *C. T. Raynolds & Co.*, Messrs. *Patrick Booden & Son* (who have been 25 years in the business), and, after these, *Arthur Bud-*

of the company and Counsel Zeiger. The total product annually is nearly a million of dollars.

We may then safely bring together the industries of white lead, linseed oil, paints and colors, dry and mixed, varnishes and whiting, in Brooklyn, as having an annual product, in 1883, of \$14,500,000, divided in about these proportions: White lead, \$2,442,000; linseed oil, \$3,158,000; dry colors, ready for use, \$1,000,000; paints, mixed and ground in oils, ready for the trade, \$5,500,000 (this estimate is probably too low); varnishes, \$1,400,000; whiting and Paris white, \$1,000,000; total, \$14,500,000.

SECTION XIII.

Ropes, Cordage and Twine.

The production of *ropes, cordage and twine* is a large interest in Kings county. It has been conducted here from almost the first settlement of the county. The oldest of the ropewalks in Brooklyn was probably started by some members of the Sands family, and not far from the time of the Revolution. It is certain that since 1783 and up to the present time, the manufacture of ropes and cordage has been constantly carried on by some branch of that family or their descendants. We do not mean by this that, during the whole of these hundred years, the same ropewalk has been continuously carried on by the Sands family or their descendants; but that there has been no time during that century when some members of the family, and often several at a time, have not been engaged in the manufacture. To be more definite, probably the first ropemaker in Brooklyn or Kings county, was the grandfather or uncle of Joshua Sands. As early as 1790 a brother of Joshua Sands was engaged in the business, his ropewalk extending from the present Sands street, which was named after him, to near Tillary street. In the same vicinity, early in the present century, were the ropewalks of James Ingalls, Forbush & Albert, and John Seaman. In 1803, Major Fanning C. Tucker, who had married a daughter of Joshua Sands, started another ropewalk on his own account, taking a Mr. March as his partner. This was at first in the same vicinity as the others, extending back from what are now Fulton, Washington and Adams streets to the then low and marshy lands at the north, through what are now Tillary, Lawrence, Bridge, Duffield and Gold streets. Several years later, Mr. R. Sands Tucker, the son of Major Tucker and grandson of Joshua Sands, came into the firm, together with other partners, Messrs. Carter, Cooper, Marsh, etc. At the death of Mr. R. Sands Tucker, his son, Mr. J. A. Tucker, the present Treasurer of the Tucker & Carter Cordage Company, took his place. The company had removed their ropewalk to buildings at first erected by John F. Delaplaine, between Classon and Kent avenues, and between Myrtle and Flushing avenues, which they still occupy.

Meanwhile, other ropewalks were started in Brooklyn, mostly east of the City Hall. Among these were Noah Waterbury and — Barberin (probably a son of Dr. Barberin) located on or near the present Clinton street, and extending back to or beyond Bridge street. This was started in 1816. Barberin died a few years later, and Noah Waterbury about 1854. Other ropewalks were Martin's, Nat. Howland's and Thursby's, all of them starting before 1825, and about 1828 Schermerhorn & Bancker's and James Ingalls. The Tucker and Carter Company is the only survivor of those early companies. Thursby's ropewalk remained in business till about 1850, when the factory became bankrupt, Mr. Thursby having died before that time. He had removed, some years before, to a tract near Newtown creek, between the present Grand and Ten Eyck streets, and extending from what is now Waterbury street to the canal. It is the present site of part of the ropewalk of L. Waterbury & Co.

The next ropewalk to be established was that of William Wall, commenced in 1830. Mr. Wall, who had learned his trade thoroughly, and had worked for some time as a journeyman with Messrs. Tucker & Cooper, purchased from one of the old ropemakers a ropewalk in Washington street, in 1830, and began business in a very small way. He removed, in 1836, to the site now occupied by his sons on Bushwick avenue and Siegel street, where there is now conducted an immense business. The next ropewalk, which is still in existence, was commenced in 1845. The partners were Lawrence Waterbury, a son of Noah Waterbury, and William Marshall. Mr. Marshall was a practical ropemaker, had served his time in other ropewalks, and had been from 1839 to 1845 a partner with John B. Thursby, a son of the Thursby already mentioned, in a ropewalk near the corner of Flushing and Bedford avenues, and for a few months the foreman of Messrs. Tucker & Cooper. This ropewalk (of L. Waterbury & Co.) was commenced on and near its present location, the firm owning the lands south of Ten Eyck street, and leasing those of Thursby, north of them, until they were sold, when they purchased them. Mr. Waterbury died in 1879. Mr. Marshall is now the oldest manufacturer of ropes and cordage who is still actively engaged in the business.

There were probably three or four other ropemaking firms, now and long since extinct, which date back to a period between 1816 and 1830. Among these were two, of whom there are still traditions—Luther and Lawrence. Both firms have descendants who are now in the business, though on a small scale. John F. Luther, at the corner of Grand and Waterbury, and Lawrence & Cooper, at Maspeth and Morgan, represents these two old firms, and the latter has united with his also the name of Cooper, a nephew of Peter Cooper, whose glue factory is in this vicinity, and who owned a large tract of land in this part of the Eighteenth

Ward. Other houses in the business are *D. Allen's Sons*, in South Brooklyn; *Samuel Ludlow*, of Rockaway avenue, corner Chauncey; and six or seven others, mostly in the Twenty-fifth Ward. Most of these houses do not, we believe, attempt the manufacture of large ropes, but confine themselves to the production of bed and sash cords, clothes-lines, fish-lines and the various kinds of twine used for packing purposes. In the early history of ropemaking in this county, the ropes were made by hand, the strands being spun and twisted by a wheel and spindle turned by a stout man (usually a negro) but later by a horse or dog power, the spinner having a mass of hetchelled hemp girt round his waist, and walking backward as he formed the strand, which was twisted by the wheel. The strands, when spun, were reeled, and then by another and larger wheel, twisted into a rope of such size as was required. For some purposes the strands were drawn through heated tar before being twisted, and thus constituted tarred rope; but the Manila and Sisal cordage was not often tarred. The tarred rope was very durable, but when it had at last worn out, it was cut in pieces of a few inches in length and picked fine, sometimes by sailors, sometimes by landmen, and not seldom in the alms-houses. When thus picked it was called oakum, and was used for caulking boats and vessels. The Manila and other untarred ropes were better for some purposes, but they were stiffer and less durable. Now, a portion of the Manila and Sisal cordage, as well as much of the Russia hemp is tarred. In the course of time, machines were substituted for most of this hand work, the spinning jenny being the first adopted by the manufacturers, greatly to the disgust of the hand spinners, who, here as well as elsewhere, rose in open rebellion against it.

In the nearly fifty years which have since elapsed, the number and variety of machines has been greatly increased. The hetchelling and combing of the fibres of the Manila, Sisal and other hems, is done by machinery, and the laying and twisting of all the cordage, and indeed the whole production of the cordage and small ropes, is effected by machines which greatly facilitate and increase the production. The larger ropes are still laid and twisted in the long ropewalks, which in some of the larger establishments are from 1,200 to 1,700 feet in length. In the manufacture of Harvester and other twines, the whole of the processes are carried forward by machines invented for the purpose.

There are now, in Kings county, fourteen rope and twine factories, an increase of two since 1880. The increase in numbers within a few years past has not been proportionately as great as in amount of production. In 1870, the entire production of cordage and twine in the state of New York was reported as \$1,553,329, less than half the present product of either one of our three largest establishments in Kings county in 1883. At that time Kings county had about \$630,-

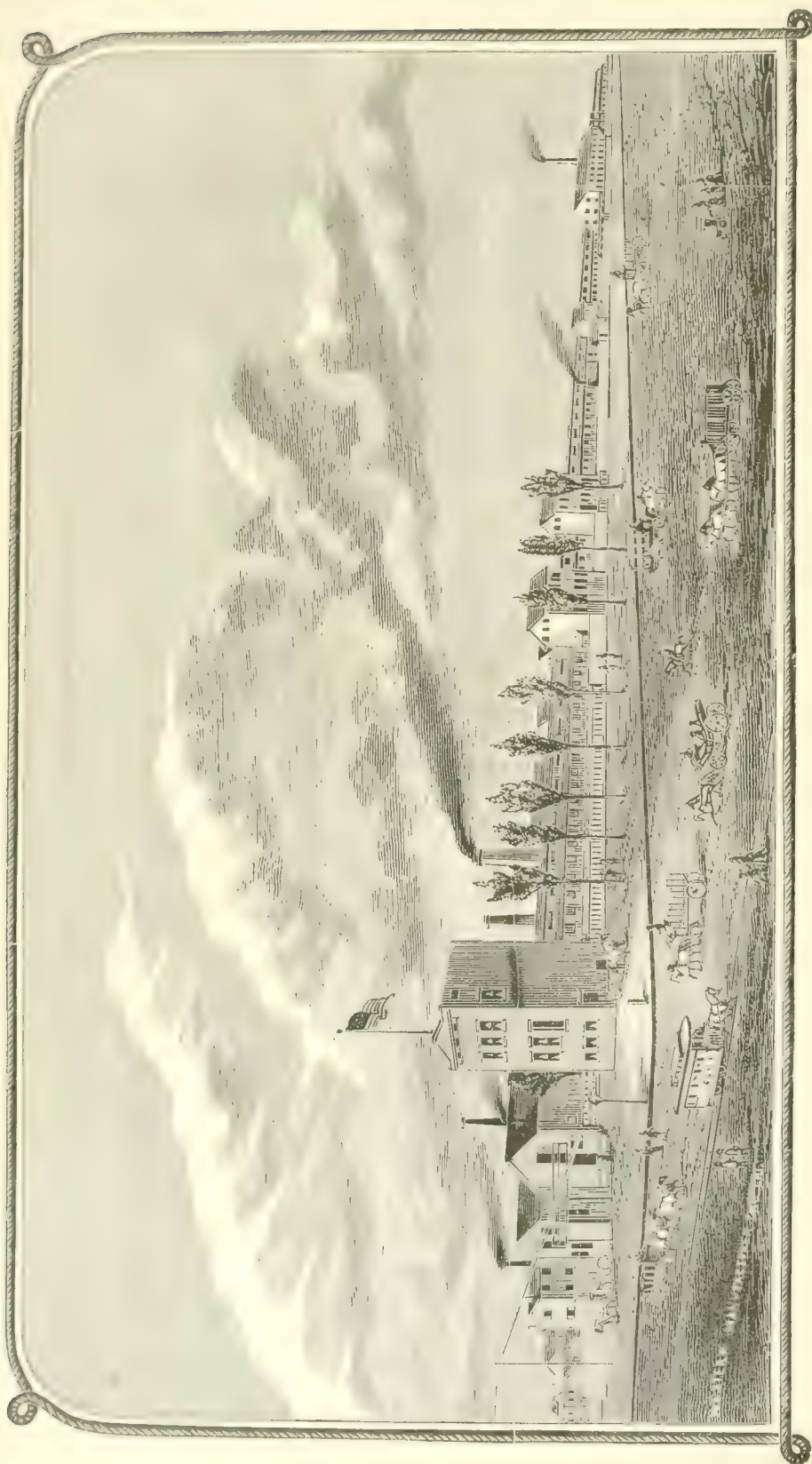
000 of annual product, and New York city \$41,146. In 1880, the census reports were: For the state, 17 establishments; \$1,647,100 capital; 1,601 hands employed; \$632,748 paid out for wages; \$4,110,112 of raw material, and \$5,207,125 of annual product; for New York city, none. For Kings county or Brooklyn, 12 establishments; \$2,566,700 capital; 1,529 hands employed; \$480,200 wages paid; \$1,200,000 of raw material, and \$3,915,566 of annual product.

A very careful and critical collection of the statistics of this industry in 1883, in Brooklyn, gives the following results: Number of establishments, 14; capital (including cost of plant), \$6,500,000; number of hands employed, over 3,500; wages paid, above \$1,250,000; material used, nearly \$9,000,000, and annual product, very nearly \$13,000,000. This is a remarkable increase for three years, but while it is in part due to the imperfection of the census returns, the development of this industry since 1880, has had no parallel in any other of the numerous industries of Brooklyn; and our figures will be found below rather than above the actual product.

The three large manufactories now existing in this industry, demand, as representative houses, a somewhat particular description. We shall take them up in chronological order.

The *Tucker & Carter Cordage Company*, which, as we have already said, commenced business in 1803 as Tucker & March, has undergone, in these eighty years, several changes of both its name and *personnel*. During Major Tucker's lifetime, it was changed to Tucker & Carter, and when his son, Mr. R. Sands Tucker, took his place, the firm name was changed to Tucker, Cooper & Co., and, after Mr. Cooper's death, to Tucker, Carter & Co. In 1881, it was incorporated as the Tucker & Carter Cordage Company, several other parties becoming stockholders and officers. Mr. J. A. Tucker, the treasurer, is the son of R. Sands Tucker and grandson of Major Fanning C. Tucker. This company was the first to introduce the spinning jenny for spinning hemp, in the place of hand spinning, as already described. This change was first attempted about 1833, and met with the most strenuous opposition from the hand-spinners. When the first instalment of rope spun on the jenny was completed, the enraged spinners seized Mr. —, who had charge of it, and treated him to a coat of tar and feathers; they then seized the hemp he had spun, paid the company for it, took it to a hill near by, and burned it publicly. But the spinning jenny triumphed after all, and the ropewalk was known for many years as "the steamer." Mr. William Wall had a somewhat similar experience, not long after, at his ropewalk.

The Tucker & Carter Cordage Company's ropewalk has always been a large one, but within a few years past it has been greatly enlarged and extended, and is now one of the best appointed and conducted rope-



THE ROPE AND CORDAGE MANUFACTORY OF WM. WALL'S SONS. (See Page 719.)

walks in the country. It is situated on Classon avenue, extending to Kent avenue on the east, and from Myrtle avenue nearly to Flushing avenue. It has three distinct departments: The ropewalk, for the production of ropes and cordage, which is 1,200 feet in length, and extends from Myrtle nearly to Flushing avenue, passing under Park avenue by a tunnel; the Harvester twine department, which turns out one hundred tons of Harvester twine weekly, without being able to supply the demand; and the jute department, which produces large quantities of jute cord, and rope and bagging for both Sea Island and Upland cotton. In this department both jute butts and jute are used. The buildings are very substantial, and the front building on

Classon avenue is a fine specimen of the castellated style. The provision against fire is very complete, the company being insured with the New England Manufacturers' Mutual Insurance Company, and complying with its very stringent conditions. These conditions we have described elsewhere. Though the first cost of the pipes, tanks and other arrangements is very considerable, they provide a perfect immunity against a destructive fire, and the saving in insurance reimburses the outlay in a few years.

The whole machinery of the establishment is driven by two steam engines, which also furnish all the heat necessary for warming it—a Corliss engine of 500-horse power and a Harris engine of 300 horse power—but



William Hall

both are taxed to their full capacity. The boilers, which are rated at 540 horse power, are, by an ingenious and economical attachment, made to furnish steam for 800 horse power of the engines, the water being heated to 300 degrees before it is admitted to the boilers. They employ, when running at their full capacity, 850 hands, and their entire annual product is 18,000,000 pounds of rope, cordage, Harvester and other twines, beside the amount of bagging, etc., realizing somewhat more than three millions of dollars. Their business and capacity has been doubled since 1880.

Next in order of time, but, perhaps, of somewhat greater extent, and confining itself wholly to the manufacture of ropes and cordage, is the house of *William Wall's Sons*. This great ropewalk was established in 1830 by William Wall, a practical ropemaker, who had served his time with an uncle in Philadelphia, and had subsequently worked as a journeyman in Brooklyn. He was an industrious, intelligent and enterprising man, and having, by hard labor, accumulated a small sum of money, he invested it in a ropewalk in Washington street, Brooklyn, in 1830, and at once commenced ropemaking on his own account. It is related of him that he carried his first completed lot of cordage on his back to New York to find a market for it. His energy, perseverance and industry soon brought their reward. His production increased with each year, and in 1835, having purchased an extensive tract of land on Bushwick road, now Bushwick avenue, between Siegel and McKibbin streets, and running back almost two thousand feet, he commenced the erection of a ropewalk there, and in 1836 removed thither, and conducted his business on a much larger scale. He attended personally to all the details, and, amid great opposition on the part of his workmen, introduced the spinning jenny into his works. The demand for his ropes and cordage constantly increased, and the quality was uniformly maintained, so that Wall's ropes became the standard of good manufacture. By successive additions, his establishment came to cover ten acres of land. Mr. Wall retired from active work in 1856, leaving his business to his sons, by whom it is still carried on.

The ropewalk (which has received very large additions of machinery, etc., since 1878) is probably the longest in the world, extending 1,700 feet in a direct line, with a width of 38 feet. The proprietors have steadfastly avoided all side issues, such as the manufacture of Harvester twine, jute rope or twine, bagging, or paper. They confine themselves to the production of ropes and cordage only, making everything, from a 24-inch rope to $\frac{1}{4}$ -inch, as well as lath yarns, marlines, sail twines, and deep-sea fishing lines; and using solely Manila, Sisal, New Zealand, Italian, Russian and American hemp. A considerable portion of their cordage is tarred hemp rigging. In addition to their extensive home trade they export their products largely to China, Singapore, Australia, South America, the south of Eu-

rope, and the West Indies. They use for driving their machinery two Corliss engines of 550 horse power in all; and five boilers of 60 nominal horse power, but capable of supplying an aggregate of 600 horse power, upon an emergency, furnish the steam for them. They are fully insured under the New England mutual corporations system, which is described in detail elsewhere in this section.

They employ an average of 550 hands, and produce 175 or more tons of rope, etc., per week, their annual production varying from 19,000,000 to 21,000,000 pounds, of an average value of 15 cents per pound. The average annual product is now worth from \$2,850,000 upwards, with a capacity of over \$3,200,000. We add here portraits and biographies of Hon. William Wall, the founder of the house, and of Michael W. Wall, the present head of this extensive manufactory.

HON. WILLIAM WALL.—This distinguished citizen of Brooklyn was born in Philadelphia, March 20th, 1800. His father was an officer on board a ship sailing from the latter port, but died when his son was nineteen months old. The lad, at the age of eleven, commenced to earn his living by working for Michael Weaver, his mother's brother, who owned a ropewalk in Philadelphia, and there showed such industry and intelligence that he was regularly apprenticed to the trade when he was fifteen. Having acquired the knowledge and skill of a good ropemaker, when his majority was attained, he came to New York. Being intelligent, industrious and ambitious, he was intent on gaining capital, with which to begin business on his own account. To this end he worked as journeyman for several years, and saved three hundred and fifty dollars, with which he determined to start in business for himself. Having purchased a ropewalk in Washington street, Brooklyn, he worked early and late, directing the manufacturing and extending his sales. It is related that he carried his first manufacture of cordage on his back to New York city to find a market, a circumstance to which he often alluded with pride, in after years, as an illustration of what could be accomplished from small beginnings by persistent, well-directed industry. Such application and energy could not fail of the success which gradually rewarded his efforts. In 1836, the business was removed to Bushwick, now in the Eastern District of Brooklyn, and was established on a much larger scale. With his usual energy, Mr. Wall attended to all details, building up the largest business of the kind in the country. He was one of the first to introduce the spinning jenny in the manufacture of cordage, which had previously been spun by hand, and was enabled, after many trials, to use it in making all kinds of rope. His establishment was extended until it occupied ten acres of ground. In 1856 Mr. Wall retired with a fortune, leaving his business to his sons, by whom it is still conducted.

Mr. Wall was a man of positive opinions; his face shows decision of character and intelligence. Of the strictest integrity, undeviating principles and untiring energy, he possessed all the elements that made up a strong man. His success in business was due to his own exertions, coupled with fidelity and honor, which secured to him the esteem and confidence of the community. Such a man was needed in public affairs; accordingly, we find that he was called upon to fill many important positions during the village history of Williamsburgh and after his removal to Brooklyn, and in

Trustee, Commissioner of Highways, Supervisor, member of the Board of Finance, Commissioner of Water Works and Mayor. In these and all other places of trust, he is entitled to the proud distinction of having been faithful and incorruptible. His election to the Mayoralty of Williamsburgh occurred in 1853, being the second incumbent of the office. He guarded the interests of the city vigilantly, vetoing promptly every measure that seemed to him to savor of extravagance or corruption; and, in his court, administering justice without leniency to breakers of the law. During his term the movement began for consolidating Williamsburgh with Brooklyn. Mr. Wall was tendered the Mayoralty of the consolidated city, but declined the honor. In 1860, he was nominated to Congress by the Republicans of the old Fifth Congressional District, which comprised wards in both New York and Brooklyn, and was elected over the usual democratic majority of five thousand. He served during the darkest days of the war. President Lincoln frequently consulted him, particularly concerning the affairs at Brooklyn Navy Yard and the port of New York; his practical knowledge and good sense were of great use and highly valued. He was a delegate to the Loyalists' Convention in 1866, after which he retired from public life.

Mr. Wall was a public-spirited man, and identified with many local institutions. He was one of the original eighteen who started the Williamsburgh Savings Bank, serving for many years as its President. He was also one of the originators of the Williamsburgh City, now the First National Bank, and of the Williamsburgh Dispensary. He served seven years as one of the Water Commissioners of Brooklyn, during which time the whole system of water supply was constructed, economically and to the satisfaction of the citizens.

Mr. Wall, though in later years a resident of New York, was thoroughly identified with Brooklyn by reason of his large business establishment, his extensive ownership of real estate, and the erection of the Wall House, while his name will ever be remembered with gratitude for his faithful public services through many years.

Mr. Wall was dignified and somewhat reserved in manner, though genial in his social hours; he had a kind heart, that was easily reached by the call of suffering; his private charities were many, but unostentatious. While in Congress, it was his habit to visit the hospitals at Washington every day, where his presence gladdened both the loyal wounded and the Confederate prisoners as well, on account of his cheering words and the comforts which his open purse procured. Though a strong Union man, his tender heart felt for the suffering of the enemy's wounded, and his benefactions were given to both sides even-handed. He was a true friend to his employees, and almost the last act of his life was the signing of a check to help a deserving but unfortunate man.

He died April 22d, 1872, leaving to his family an honored name, and the record of a useful, well-spent and busy life.

CHARLES WALL, the eldest son of Hon. William Wall, was born in Brooklyn, in 1828. He received his education in his native city and at Swinburne's Academy, White Plains, New York, and spent two years abroad, chiefly in France, adding to the knowledge he had already gained. At the age of twenty-two he became a partner in the house of William Wall & Son, importers of hemp and manufacturers of and wholesale dealers in cordage. This business was established by Hon. William Wall, and its history is fully set forth in a biographical sketch of that well-remembered gentleman, which appears above. Mr. Charles Wall was a member of this firm, later called William Wall & Sons and William

Wall's Sons, until his death, in 1879, acting as manager of the business after the retirement of Hon. William Wall, and inventing much machinery, now used in the manufacture of cordage.

Mr. Wall married Miss Eliza Berry, daughter of Evander Berry, an extensive landowner in Brooklyn, E. D. He was one of the most prominent manufacturers of his time, and his advice was sought by manufacturers in all parts of the country upon matters of importance. In deliberative conventions of manufacturers he was esteemed as an able exponent of the principles governing successful operation in the field they occupied. Politically, he was a republican; but his inclinations did not lead him to engage actively in political strife or controversy. He was known to all as the exemplification of personal honor and business probity, and enjoyed, in the highest degree, the confidence and esteem of all with whom he was brought in contact. In all the relations of life he was upright and plain-spoken, and his position upon any question with which he interested himself was never questioned or doubted by any who knew him. He died in the prime of life, mourned sincerely by many, and by all pronounced an honest man, "the noblest work of God." The places which knew him once will know him no more forever; but, in the memory of relative and friend and business acquaintance, the name of Charles Wall will ever be held dear.

MICHAEL W. WALL.—After the retirement of their father from business, his sons, Charles, Michael W. and Frank T., carried on the establishment, under the firm name of William Wall's Sons. At the death of Charles, the eldest, the third son, Michael W., on account of the previous death of his brother, William Wall, Jr., assumed the management, which he still retains. Born in 1839, he came into the business as clerk in 1856, remaining until the breaking out of the war, when he joined the 8th Militia, in which he was lieutenant, and went with his regiment to the front. He saw some service, was wounded, and came home a captain, with an honorable military record. Upon his return, he continued his connection with the house as a partner, after a time becoming the head of the establishment. The capacity of the works has been increased one-third within the last four years; 500 men are employed, and the manufactured products find a ready market in foreign countries as well as in the United States.

Though Mr. Wall's residence is in New York, his business identifies him with Brooklyn, where he has large real estate interests also. He is prominently connected with the New York & Brooklyn Ferry Company, and other corporations. Though he is still a young man, the prosperity of the firm, under his management, and the prompt, efficient discharge of his various duties, indicate that he has inherited his father's business abilities. He is a member of several clubs in New York city, and there, as well as in general society, his genial manners, pleasant address, high social position, and cordial, kindly disposition, have won for him the hearty esteem of all with whom he is brought into contact.

Though not an active politician in the sense of being an aspirant for office, he has always taken a deep interest in all municipal, state and national questions, and maintains, with great vigor, the principles of the republican party. In personal and mental characteristics he resembles his father, and is well known in business circles as one of that class of energetic, capable and honorable men, whose enterprise, public spirit and ability have made New York and Brooklyn the metropolis of the western world.



Michael H. Wall



Charles Smith

The third of these manufactories in the order of time, though the first in the extent and perfection of its plant, and the amount and variety of its products, is the house of *L. Waterbury & Co.*, which is claimed to be unrivalled in its capacity and varied production by any rope and cordage manufactory in the world. The present firm, of which Lawrence Waterbury, a son of Noah Waterbury, and William Marshall, a practical ropemaker since 1830, were the first partners, was not organized till 1846.* Their ropewalk was first established on the south side of Ten Eyck street, but owing to a destructive fire in 1849 they leased the building of the Thursby ropewalk adjoining, on the north side of that street, the proprietor having given up business. After the death of Mr. Thursby, the property came into market, and Messrs. Waterbury & Co. purchased and added it to their property. Their tract, which now extends from Meadow street to Grand street, and from Waterbury street to the canal, comprises about 27 acres—405 city lots. Soon after their purchase they commenced the erection of additional buildings, and a large part of their extensive tract is covered with their buildings for various purposes. Among them are: a ropewalk proper, 1,600x40 feet; jenny houses, aggregating 525x40 ft., and three stories high, for preparing and spinning Manila, Sisal, Russian, American and Italian hemp; buildings aggregating 225x44 feet, three stories high, for the fine spinning of jute; paper-mill buildings aggregating 400x60, a part of them three stories high, and part one story; bagging mills for the coarse spinning of jute butts yarn, aggregating over 200x60 feet, three stories high; a large laying shed, 150x100, where all the small rope is made; storage buildings and large cellars, capable of holding several months' products of manufactured goods, and storage sheds having a capacity for many thousand bales of raw material. These last alone cover several acres.

There are also large engine and boiler houses, stables for fifty horses, etc., etc.

Beside these there is a large machine shop, and carpenter shops adjoining, where much of the machinery in use is either made or repaired. Every part of the production which can be facilitated by machinery has its machines busily at work.

The bales of hemp are opened, the fibre "drawn" over and over again into a "sliver," the "sliver" into a "yarn," the yarn is "formed" into a "strand," and the "strand" is "laid" into a firm fine cord, or into a massive rope, as may be required.

Other machines pick the hard bales of jute butts to pieces, then "card" them and spin them into a coarse yarn, and they are woven into bagging; or, for paper, they go through a cutter, and then into enormous revolving cylinders called "rotaries;" then into "wash-

ing" and "beating" engines, where they become a fine light-brown pulp, and then is pumped into "stuff chests" at the end of machines to be "beaten" again, which it is transformed into paper, dried, calendered, cut, folded and counted ready for delivery.

The processes for making the Harvester twine, jute rope, wool twine, etc., are similar, being only modifications of the other systems.

All the processes which can be executed by machinery are turned over to the machines, yet 1,400 hands are required in the busiest seasons to superintend the machines, and to do what they cannot.

For driving all this machinery, and heating the numerous buildings, the following steam engines are required: One pair compound engines of 1,000 horse power, one pair compound engines of 500 horse power, one beam engine of 500 horse power, one pair of compound engines of 100 horse power, one pair of compound engines of 150 horse power, one beam engine of 350 horse power; in all, 2,600 horse power; and these engines are all driven up to their full capacity of work. The steam is furnished by 17 boilers. All the engines, except one small pair, are of Wright's construction. The small pair, as well as the numerous steam pumps, are of Knowles' manufacture.

The cost of this immense plant has been very heavy, probably amounting to more than \$1,500,000; but the real estate has more than quadrupled in value.

Ropewalks are generally, though unjustly, supposed to be very liable to destruction by fire, so much so, that all the insurance companies rate them as hazardous or extra-hazardous; yet so perfect and complete are the precautions against fire in this great establishment, that the New England Manufacturers' Mutual Insurance Companies' Association takes the risk at one per cent. and pays back every year a dividend of from 60 to 80 per cent. of the premium. What are these precautions? Through every room of all the buildings rows of pipes are run along the ceilings, and at a distance of from eight to ten feet apart taps are inserted with a large sprinkling apparatus. These taps have stoppers, composed of soft metal, which melts at a temperature of not above 150° F., and as the pipes are connected with the street water-main's tanks, the moment the plug melts they each throw a heavy spray over a space of 100 square feet, and as they are only eight or ten feet apart, they will at once deluge the room and extinguish any fire originating there. But lest the supply from the mains should give out, huge tanks of water, containing many thousands of gallons, are constructed upon the roofs of the largest building, and kept constantly filled and in order, to be supplied to pipes and hose throughout, while driven wells in the vicinity of the buildings furnish an abundance of water, which the steam fire-pumps could rapidly distribute over each of the rooms. This abundant supply is supplemented by a sufficient number of watchmen, whose vigilance is

* Lawrence Waterbury received the rope factory originally as a gift from his father, Noah Waterbury, in 1844; but Mr. Marshall did not come in as a partner until 1846.

secured by the automatic action of an electric tell-tale watchman's clock, and the system is guarded by the frequent visits of the inspectors of the insurance company, whose monthly reports are printed and distributed to all the insuring corporations. This system is also introduced into the Tucker & Carter Cordage Company's works, and more recently into those of Messrs. William Wall's Sons.

The average out-put of this establishment is as follows: Ropes and cordage (Manila and Sisal hemp, with some Russian and a little American), in all 9,000 tons, at an average price of \$240 per ton, \$2,160,000; Harvester twine (Manila hemp), 4,000 tons, at \$300 per ton, \$1,200,000; bagging (mostly from jute butts), 6,240,000 yards, at 10 cents, \$624,000; "Manila" paper (from jute butts stock), 3,000 tons, at \$140 per ton, \$420,000; jute rope and twine (wool twine from jute, not jute butts), \$120,000; total out-put, \$4,524,000.

It is worthy of notice in our history that this house was the first manufactory in this country, or any other, to utilize *jute butts*. Gunny bagging, which was made from jute raised in India and manufactured there, was for many years largely imported into the United States, but the East Indian manufacturers had great difficulty in ridding themselves of the jute butts, or lower portion of the stalks of the jute (the plant was brought to them pulled up from the roots), and the butts were not only supposed to be worthless for manufacturing, but were a positive nuisance, and were only disposed of by compelling their employees to burn them in small quantities every day. A shipmaster, leaving Calcutta without a full cargo, was induced, in default of anything better, to take nearly a hundred tons of these jute butts on board as ballast. Arrived in New York, he found in Mr. Marshall, of L. Waterbury & Co., a customer who consented to take it off his hands. By some adaptation of their machinery, Messrs. Waterbury & Co. were able to use this despised fibre for bagging, and have gone on using it ever since, and their example has been followed by other manufacturers, till now somewhat more than 40,000 tons of imported jute butts are imported annually. Of this amount Messrs. Waterbury & Co. use about 9,000 tons. The Government collected a duty of \$6 per ton on it for several years. Last year the duty was reduced to \$5.

After these houses come *Lawrence & Cooper*, of Maspeth avenue; *Messrs. D. Allen's Sons*, in South Brooklyn, and *Samuel Ludlow*, of Rockaway avenue, whose business, though on a smaller scale, is still large enough to be profitable. Only the second of these houses makes ropes to any extent. Mr. Ludlow makes a specialty of sash and hammock cords and clothes lines. There are eight or nine other small houses which manufacture no ropes, but make clothes lines, baling cord, lath yarns and twine of all descriptions, for all sorts of customers, for which there is a large and increasing demand. With an inexpensive plant,

and the work so light that much of it may be done by women and children, these houses are able to make a comfortable living, though not to acquire large fortunes.

It may be said, in conclusion, that the production of ropes and cordage from Manila and Sisal, Russian, New Zealand and American hemp, in Brooklyn, constitutes more than 40 per cent. of the entire production of the United States; and that though embarrassed by the heavy duty of \$25 per ton of Manila, \$15 on Sisal hemp, and \$5 on jute butts—all unjustifiable impositions on raw material which cannot be produced here—the American rope manufacturers can command the market of the world for their cordage, underselling Great Britain in her own colonies. Of course, their goods exported to foreign countries command a rebate, but this rebate is materially less than the duty.

SUBSECTION I.—*Jute and Jute Butts.*

Of over 84,000 tons of jute and jute butts imported into the United States in 1882, more than one-half—53,000 tons—were jute butts. The ropewalks of Brooklyn consumed of this somewhat more than 16,000 tons, or a little less than one-third of the whole importation, and of jute nearly 6,000 tons. These were all consumed in the manufacture of jute rope and twine, bagging and paper.

But the ropewalks were not the only consumers of jute and jute butts. Jute is used in the manufacture of the best qualities of burlaps; in carpets of the cheaper class, jute butts forming the filling in these; for imitation of coarse silk goods; for imitation hair switches; and for wrapping paper of all grades. The census of 1880 reports three manufacturers of jute and jute goods in Brooklyn, but omits several small establishments. The three establishments specified were engaged in the manufacture of carpets principally. The *Planet Mill*, the largest of the three, however, made, and still makes, other jute goods, beside carpets; burlaps, and other goods, being on its list.

The number of jute manufacturers has increased since 1880, there being now four carpet manufacturers who use this fibre either for warp or filling, or both, and four or five small houses, which produce other jute goods. The amount of raw material used in 1880 was reported by the census as equivalent to about 7,500 tons, if jute and jute butts were used in equal quantities, but if there was an excess of the latter, as is probable, there were at least 10,000 tons in all. Adding this to the consumption of the ropewalks, with an allowance for the increased consumption since 1880, and the entire consumption of jute and jute butts in Brooklyn will be 31,000 tons, or three-eighths of the entire importation. The consumption of Manila and Sisal hemp in this city, bears just about the same proportion to the entire importation of these fibres.

The jute manufacture employs over 500 hands, and the annual product is now more than \$800,000.



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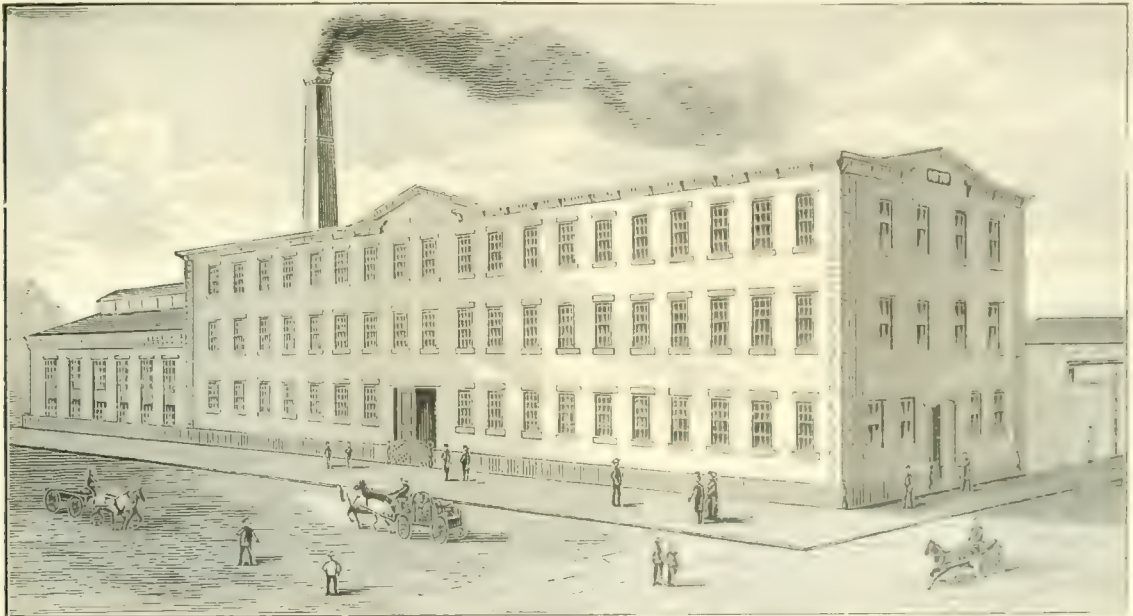
SUBSECTION II.—*Ropemaking Machinery.*

The existence of ropewalks in these days implies, as it did not fifty years ago, the production of numerous machines for the manufacture of the ropes, cordage and twine. Nearly all the processes which at that time were performed by hand at a great expenditure of time and severe labor, are now performed better, with fifty-fold rapidity, and with a great saving of labor, by machines; while many descriptions of cordage and twines, then unknown, are now wholly produced by machinery. Twenty, or even fifteen years ago, there were very few machines in the ropewalks; the spinning jenny was in very general use, and there were some twisting and laying machines; but the efficiency of the manufacture of rope, cordage and twine, has been almost indefinitely increased by the machines invented and introduced by Mr. John Good,

tion of the Harvester twine was ready for use, when the demand for that article came, and it has required no changes since.

Mr. Good licensed, some years since, an English house, Samuel Lawson & Sons, of Lambeth, to make the ropemaking machines under his patents, paying him a royalty, and that house are now manufacturing nearly as large an amount as his Brooklyn establishment.

Most of his business now consists in the building and furnishing of ropewalks, in all parts of the world, with his machines in complete running order; and so great is the confidence of his patrons in his integrity and capacity to execute these contracts satisfactorily, that he has all the business he can do, and at such rates as he demands. The manufacture of Harvester twine is becoming a large industry at the west, and



JOHN GOOD'S ROPEMAKING MACHINERY ESTABLISHMENT

since the issuing of his first patent, October 5, 1869. Mr. Good is now not only the leading, but the only considerable manufacturer of ropemaking machinery in the United States, and all of his machines are of his own invention. In about thirteen years he has built up a business which occupies the finest buildings for machinists' work in this city or county, covering an acre of ground, all his own property, and his business is very rapidly increasing.

The complete adaptation of these machines to their work, and the perfection of their manufacture, are really wonderful, and demonstrate the practical character of the inventor's genius. While they are simple in construction, they require no improvement, and the shrewd and skillful mechanics who have made and used them, find no opportunity for patenting any modification of them. The machine for the produc-

tion of the Harvester twine is shipping more and more machines each year to western manufacturers.

These machine works now have a capital of \$300,000 or more, and give employment in a busy season to 300 hands, paying out about \$100,000 in wages, and producing about \$300,000 of machinery. With his present facilities, and his high reputation as an inventor and machinist, there is no reason why his business should not be doubled within the next five years.

JOHN GOOD.—The lives of successful inventors are always pleasant and profitable reading, and it is a source of gratification to us when we have the opportunity of recording such a life in our pages. The subject of this sketch, Mr. John Good, has been the recipient of his own fortune, and it is well that the young should know that one who has made the many of them, spent his early years in severe and scantily requited toil, in the very prime of a fruitful and vigorous

...and is attributed to his inventive genius, his industry and sterling integrity, to a prominent and commanding position among the manufacturers of a great city.

Mr. Good was born in Ireland in 1840. His mother came to America, when he was but seven years of age, and settled in Brooklyn, and here he and his elder brother, Michael, acquired a moderate education in the public schools. Both were quick to learn, and keen observers. When John was about thirteen years old, he was employed, for a time in the extensive ropewalk of the late William Wall (now conducted by William Wall's Sons). After some further attendance at school, John was apprenticed to Messrs. James Bulger & Co., machinists, and served his time with them, becoming an accomplished machinist. But his fondness for the ropemaking business still clung to him, and he presently procured a situation as superintendent of the ropewalk of Henry Lawrence & Sons, which has since been succeeded by that of Lawrence & Cooper. Here he was led to study the possibility of contriving some method of lessening the great labor of hand-combing and lapping the Manila, Sisal, Russian and American hemp, and straightening the fibres so as to fit the fibre for spinning more rapidly. It was the time of the war, and there was a great demand for ropes and cordage, yet all the combing was done by the old-fashioned lapper. The problem occupied his thoughts night and day, and at length he succeeded in producing a machine which would do the work automatically and well. Other machines followed for drawing the hemp into slivers and for spinning it into a fine cord. He tested these machines very thoroughly, and, having secured patents for them, both here and in Europe (his first patent bears date October 5, 1869), he and his brother, Michael, established a machine shop and factory for manufacturing these machines, for the use of ropemakers, at 588 and 590 Grand street, E. D., about 1871. His machines had received the first premium—a medal—at the Fair of the American Institute, in 1870, and subsequently were twice honored with a medal at the Paris Expositions of 1874 and 1878. In the latter year, Mr. Good, having purchased an acre of land (somewhat more than half a block), bounded by Washington and Park avenues, and Hall street, proceeded to erect on it his present extensive and beautiful machine works. The buildings, a part of them three stories in height, extend along the whole Park avenue front, of 200 feet, and from 50 to 100 feet on Washington avenue and Hall street. They are the most convenient, perfect, and admirably arranged machine shops in Kings county, and we doubt if they are surpassed anywhere else in this country.

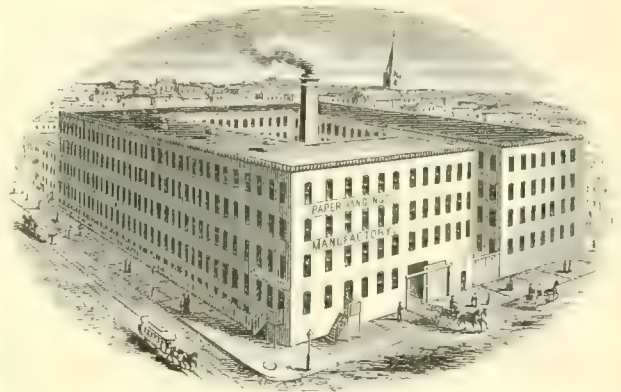
When the demand came for "Harvester Twine," Mr. Good had a machine ready to make it, and one so perfect in its character that all the ropewalks which engage in that branch of manufacture have been perfectly satisfied with it. At every new emergency in the business of ropemaking, Mr. Good has been ready at once with a machine to meet it. He has now machines adapted to the jute manufacture, the fibre of which requires a different method of handling from that employed in the manufacture of the various kinds of hemp. It is a characteristic of his machines that, while very simple in construction, they cover the whole field, and leave no room for improvement by others.

Some years since, he established a house in Leeds for the manufacture of his machinery there. The firm name there is Samuel Lawson & Sons, and they are working under a license of his patents, and are doing about the same amount of business as his Brooklyn works. He is the leading manufacturer of ropemaking machinery in the world. His busi-

ness is now largely done by contracts. Parties who are desirous of establishing ropewalks, in any part of the world, can contract with him for every part of the work, from buying the land and erecting the buildings, to the completion, with all the latest and best machinery in perfect running order, and, if needed, skillful and competent machinists to superintend the running. Many of these establishments, thus built and furnished by him, are now doing excellent work in different States; and he has acquired so high a reputation for the perfection of his work and his integrity in dealing, that he has all the contracts he can fill.

SECTION XIV.

Paper Hangings, Window Shades, and Fresco and Ceiling Papers.



W. H. MAIRS & CO.'S PAPER-HANGINGS MANUFACTORY.

The manufacture which gives to each establishment the largest annual product is that of paper hangings. The census reports, in 1880, but three manufactories—those of *William H. Mairs & Co.*, *Robert Graves & Co.*, and *Robert S. Hobbs & Co.* These three establishments were reported as having a capital of \$285,000; employing 427 hands; paying \$175,733 of wages; using \$783,753 of material, and producing \$1,382,862 of paper hangings, window shades and fresco papers.

The number of these establishments is now four, Mr. *William N. Peak* having commenced business since 1880. At present these houses manufacture more than thirty per cent. of all the paper hangings made in the United States, and the quality of their finer goods is not surpassed anywhere. A few of their designs are based upon English or French patterns, though these are usually materially modified; but the greater part, and those of the most artistic character, are either from designs of their own artists, or workmen in the factories, or designs made outside and brought to them for sale. A very considerable trade has sprung up in these designs, of which they require very many; they are generally brought to the factories by men, but many are believed to be the work of young women and girls who have been trained in the Schools of Design for women. Aside from skill in the art of drawing, and tact in the forming of such combinations as will produce a pleasing and graceful effect, there is needed a

practical knowledge of the actual working of these combinations; for designs which may be graceful and beautiful in themselves, will not always produce a good effect when printed from the roller or block. The demand for these fine papers is rapidly increasing, and is now more than double what it was in 1880.

Messrs. *W. H. Mairs & Co.* are the largest manufacturers in the United States, and produce almost all grades of papers and paper shades of beautiful and varied designs. Their annual production exceeds nine millions of rolls, of eight yards each.

Messrs. *Robert Graves & Co.* are next in the amount of production in Brooklyn, turning out about 2,500,000 rolls annually, besides large quantities of fresco and ceiling papers. They confine themselves almost exclusively to the production of the highest grade of papers.

Messrs. *Robert S. Hobbs & Co.*, though third in the amount of their production, are a large and long established house, and their papers rank as high in quality and finish as those of any of the other houses in the trade. We believe they do not make window shades or ceiling papers. Their processes of manufacture are similar to those of Messrs. *William H. Mairs & Co.*, already described.

Messrs. *William M. Peak & Co.* are a young house, having commenced business in 1882, but their goods are of excellent quality, and they are building up a good trade.

A brief account of the processes of wall paper manufacture will be of interest to our readers.

Forty or fifty years ago the manufacture of paper hangings in this country was confined to the production of plain colored papers for paper window-shades, and cheap papers on a brown or slate-colored stock, on which rude designs were printed by a hand press from blocks, in, perhaps, three or four colors. The register of these was imperfect, and the best patterns would not now be considered fit to be used in papering the plainest or roughest shanty. All the better classes of paper hangings were imported from England or France; and some low-priced papers, but of better designs than the American, came from Germany.

The improvement was very gradual for many years; the paper and printing were better, though both were far below the poorest of the present time. France supplied the finest papers and the English manufacturers followed. A manufacturer of long experience tells us that, so lately as twelve or fifteen years ago, they would look sadly at the samples of English and French papers as they came in, and would say, "Oh, if we could only equal this!" Now, the same samples would excite their derision, for they can far surpass even the highest productions of the foreign manufacturers. The first item in the manufacture of paper hangings is the paper. We believe none of the manufacturers make their own paper, and probably they could not do so to advantage. Several of the large paper mills in Sara-

toga, Washington and Herkimer counties, and some of those in New England, run exclusively on this paper. It is mostly made of old newspaper stock, and it does not require very great strength and tenacity, and straw would be too brittle, wood-pulp too fine, and rags too costly. There are two or three grades, though the difference in quality is not great. All are sized at the paper mills, and are furnished to the wall paper manufacturers in rolls of about 1,600 yards each. A house like that of Messrs. *W. H. Mairs & Co.* will use from 70,000 to 80,000 of these monster rolls, which weigh not far from 100 pounds each, in a year—about 3,600 tons. In the basement of the great factory, side by side with the stock of paper, are the barrels and casks of colors, ground in water. The aniline colors play an important part among these, and there are also large quantities of gold and silver leaf, and some of the Dutch bronzes—with their appropriate sizes.

But to return to the paper. If it is to be of the grade known as *satin papers*, it is first passed through a grounding machine which puts on a coating of clay. This is then reeled up and passes through a polishing machine, so arranged that, as the paper passes over the cylinder, its surface comes in contact with roller brushes of tampico, running at great speed, which gives it a fine gloss or satin finish. This ground work may be of any desired color, the clay being tinted with a light cream shade, pale or deep yellow, buff or *ecru*, brown, olive, light or dark green, blue, or even black.

Those papers which are not satin finished do not undergo this process, but are fed directly upon the printing machine, the sizing of the paper at the mill where it is manufactured being sufficient to prevent the colors from striking through. At the present time, however, all the better classes of papers are satined or grounded before printing. In either case, as the paper passes from the printing machine a rod or lath with rounded edges, about a yard in length, is, by an ingenious device, slipped under the paper at intervals of about 16 feet, and drawn up the inclined rails on either side, till it reaches a height of perhaps seven and a half feet when it drops into a slot in the slowly travelling frame, and the paper is thus suspended, in loops measuring about 16 feet. The frame on which they are suspended, travels forward slowly, closing up to a distance of perhaps six inches between the loops, and the temperature of the room is sufficiently high to dry this colored surface in a few hours. When dry, the paper is ready for the printing of the pattern. The printing, which was originally done from wooden blocks, usually of cherry or beech, with carved figures, which did not always register accurately, is now mostly done from cylinders of maple, the process of making which we will presently describe. Each cylinder or roller prints only a single color, and all of the pattern which is of that color. The number of colors in a pattern may be anywhere from one to twelve; and if gold

printing is furnished the patterns to be in gold have cylinders turned at these points with gold size, the gold leaf being pressed and applied by another machine. The arrangements for registering are perfect; every part of the pattern, on each roller, fits absolutely into every other, and when the cylinders are put in their places on the great printing machine, whatever the number of colors, they are all printed by the same revolutions of the machine, and the long roll of paper comes out completed, so far as the pattern is concerned. For the drying, the same process as before is necessary of hanging it in loops, and when fully dried it is lightly calendered, and then passed along an inclined plane, where, by automatic machinery, it is cut off in lengths of sixteen yards, the end turned over, and, by another automatic arrangement, a girl is able to turn off about five rolls a minute, the outer edge or end of the roll being folded inward like a hem. The rolls are carried from this room to the receiving room, examined, numbered, and after sampling, are ready for packing. While roller or cylinder printing of wall-papers is the process most in use, some of the very finest patterns are printed from wooden blocks, with raised figures, upon a different kind of press, the impressions being made on a flat surface, instead of by cylindrical rollers, somewhat after the style of the printing machines which print from wood engravings in colors. The method of making the cylinders or rollers for printing the wall-papers merits description. The cylinders, turned very smoothly and of uniform size, have, first, the entire pattern pasted or cemented upon them. This pattern is on tracing paper or cloth, and is transferred from the original design, which has the design drawn and colored as it will appear when finished. The transfers made by tracing paper of this design are not colored, but there are as many transfers as there are colors, and the artist, by a colored tracing pencil, marks every line of a particular color upon the tracing paper for each roller, before it is carefully pasted upon the roller. The rollers for the different colors constitute a set, each having that portion of the design only pertaining to its particular color, and the whole number making up the entire pattern. The rollers having these patterns of the design marked are next put into the hands of workmen, who work out the design by inserting in the lines brass-plates—what the printers would call their brass rule—about one-fourth of an inch wide. The brass is very hard, and the pieces are skilfully inserted, after being hammered or filed into shape, so as to give the outline of a flower, or vine, or any other figure. The lines are first cut slightly by a suitable tool, and then the brass figures are settled into them to a uniform depth by a slight tap of a hammer. The interstices of each figure are filled with a very heavy and dense felt, of a thickness nearly equal to the elevation of the brass figures. When each roller of a set is completed, they are taken to a lathe, and a gauge being

set, each is turned down to precisely the same diameter, a difference of a hair's breadth being sufficient to materially damage the printing. The manufacture of window shades, which are produced in large quantities by Messrs. Mairs & Co., and of fresco and ceiling papers, which are a specialty of Messrs. Graves & Co., requires a somewhat different process, owing to the greater width and different form of these papers and shades. The *shades* are printed on gigantic cylinder presses, the diameter of the cylinders being from 15 to 18 feet. The rolls of paper—three feet in width—from which the presses are fed, are about five feet in circumference. The ceiling papers are printed, we believe, on a very large press, but we are not familiar with the details of the work.

This industry has passed through great changes in the last twenty-five years, not only in Kings county and the state of New York, but throughout the whole country. In 1860, the first census in which it was reported, there were 26 establishments in the whole country, employing 1,294 hands, and \$1,037,600 capital, and producing goods valued at \$2,148,800. These all consisted of what would now be called cheap papers.

In 1870, the number of establishments had fallen to 19, but these were employing 869 hands, and \$1,415,500 capital, and produced goods to the value of \$2,165,510. These were better goods, though not yet of the highest quality. In 1880 there were reported 25 establishments, employing a capital of \$3,560,500 and 2,487 hands, and producing goods valued at \$6,261,303. Among these were the finest patterns, equal if not superior to any of the European papers. Of these 25 paper hangings factories, 16 were in the state of New York (11 in New York city, 3 in Brooklyn, 1 in Staten Island, and 1 in Buffalo), 6 in Philadelphia, and 3 in New Jersey.

In 1870, one-fourth of all the paper hangings made in the state of New York were made in Kings county, and three-fourths in New York city. About two-thirds of all the manufactories, and more than one-half the wall paper produced in the United States were made in the two counties of New York and Kings. The statistics of the census of the business in Kings county in 1870 were: 5 establishments, 332 hands employed, \$300,000 capital, \$149,500 wages, \$996,000 products.

In 1880, there had been another change, both in Kings and New York counties; the production in the former, as we have already seen, had increased, though the number of establishments had decreased from five to three; the quality of the goods had also greatly improved.

In New York city there were 11 establishments; \$196,500 capital; 1,359 hands; \$415,120 paid in wages; \$2,054,104 value of raw material; \$3,499,143 of annual products. At that time those two counties had three-fifths of all the manufactories, and produced



Wm H. Mair

four-fifths of all the paper hangings made in the United States.

Both cities (New York and Brooklyn), have made great progress in the manufacture of these goods in three years, 1880-'83, and their present relation to the entire production of the country is that of 83 to 100, or five-sixths of the whole. The number of establishments remains (with some local changes), three-fifths of the whole, but some of the establishments in the two cities are larger than any others in the United States (one, in Brooklyn, is said to be the largest in the world). Of the 83 per cent. of production, Brooklyn has about 31 per cent., and New York 52 per cent., and each year increases largely the aggregate production. The actual amount and value of the Brooklyn product for the year ending July 1, 1883, was, in round numbers, 13,632,000 rolls, value, \$2,175,556; of this amount Messrs. William H. Mairs & Co. made 8,882,000 rolls, or their equivalent, valued at \$1,125,376.

The great improvement in these papers dates back only to 1875. There are yet considerable quantities of the cheaper papers manufactured, for there is a demand for them; but even the cheapest have tasteful designs, and are superior to many of the best designs of fifteen years ago. A small quantity of the cheaper qualities is imported from Germany, where poor paper and cheap work are united, but the importation is decreasing every year.

WILLIAM H. MAIRS, who is well known as the leading manufacturer of wall paper in the United States, was born in Utica, Oneida county, N. Y., June 29th, 1834. His father was John Mairs, who, for twenty-five years, was a merchant of Utica, and his mother was Rachel (Van Deusen) Mairs, a daughter of James Van Deusen, Esq., of Leeds, Greene county, N. Y.

Mr. Mairs' grandfather, Rev. James Mairs, was a Scotch Presbyterian clergyman, who came to this country from the North of Ireland, about 1790, and settled at Galway, Saratoga county, N. Y.

On his mother's side he is a descendant of the seventh generation of Jan Franse Van Hussam, who came from Holland with his family and settled at Fort Orange and Beverwyck (now Albany), as early as 1645, where he made several purchases of land; among others, the Claverack lands, made June 5, 1663, lying along the Hudson river, above, and including the site on which the city of Hudson now stands, which he bought of the Indians for the sum of five hundred guilders in beavers, as recorded in a book of deeds in the Albany county clerk's office. Mr. Mairs, consequently, comes of old Knickerbocker stock.

In 1845, his father closed up his business in Utica, and removed with his family to New York, where William H. Mairs received his education at the Mechanics' Institute.

In 1850, he commenced his mercantile education in the fancy goods trade, in which his father and brother were then engaged, and in that line of business he remained seven years.

Ambitious to start in business for himself, when but 23 years of age, in 1857, he began the manufacture of wall paper in a comparatively small way. His business grew rapidly and steadily, and now ranks as the most extensive of its

kind in the United States. His immense factory, located at the corner of Sackett and Van Brunt streets, is five stories high, and covers twenty-three lots, extending through the block to Union street; its length on Sackett street is 256 feet, and it extends 200 feet along Union street, and 100 feet on Van Brunt street. Here all the various processes of wall paper manufacture are carried on, affording employment to a large number of skilled workmen. In the pages of this work, devoted to the manufacturing history of Brooklyn, these premises are described, and further mention is made of Mr. Mairs' great enterprise.

On June 13th, 1866, Mr. Mairs was married to Miss Ellen A., daughter of Danforth K. Olney, Esq., of Catskill, N. Y., a prominent member of the Greene county bar, and has a family of four sons and a daughter named in the order of their birth. James H., born July 31st, 1867; William A., born January 6th, 1870; John D., born March 2d, 1872; Olney B., born January 31st, 1876, and Ella Louise, born October 20th, 1878. Mr. Mairs is, in the best sense, one of the most prominent of the representative business men of Brooklyn; a man of much enterprise, energy and originality, and a large employer of labor. Taking no active part in politics or other interests, which might have a tendency to divert his attention from his constantly increasing business, he has applied himself unremittingly to the paper manufacture and trade, with all the various details of which he doubtless has a more thorough acquaintance than any other man in the country, until his name and reputation for fair and honorable dealing is known to the entire wall paper trade of the United States and Canada.

SUBSECTION I.—*Paper-Making.*

There is not, so far as we are aware, any paper mill in Kings County for the manufacture of fine writing or printing papers; perhaps none for white papers of any description; though on this latter point, we are not quite certain. These papers are generally made where there is ample water-power—good clear water being a necessity for making clear white papers—and cheap land, and extensive, low-priced buildings are also essential. The raw material is probably as cheap here as anywhere.

Straw paper and paper from wood pulp are also generally made in the country, and the former, especially, in the west, where straw is a drug. But there are, certainly, two and perhaps three manufactories of paper in Kings county. One, the "Manila" paper, made of jute butts by Messrs. L. Waterbury & Co., we have already described; they manufacture 10 tons of it every 24 hours, equal to 3,000 tons per year. Messrs. *Henry A. Philp & Co.* (H. A. Philp and M. B. Carpenter), a house recently established, are manufacturing, at Carroll, corner of Nevins street, both news and wall paper. This paper is made from old newspaper stock and similar material. The paper is made on Fourdrinier machines, and in large rolls. They produce 4 tons of the wall paper in 24 hours, equal to about twelve hundred tons per year. It is mostly sold here. The quantity of news made is not reported. Lowell L. Palmer manufactures "Manila" paper, amount not stated.

Another paper mill, finely fitted up, is now idle.

SUBSECTION II.—*The Manufacture of Fancy and Colored Papers.*

The statistics for the census gathered by Mr. Frothingham, in 1880, enumerate paper hangings and fancy papers together—giving 6 establishments; \$597,000 capital; 622 hands; \$237,133 wages paid annually; and \$1,752,412 of annual product. The Census Office decided to separate the two industries, and gave the statistics of the paper hangings manufacture as 3 establishments; \$285,000 capital; 427 hands; \$175,233 wages paid, and \$1,382,862 of annual production.

The number of these establishments in 1880 was correctly stated; one has been added since; but how far short of accuracy they fell in the other particulars is very clearly shown in a preceding section.

But, unfortunately for the accuracy of the census returns, they forgot to put in the fancy papers at all! The statistics of this industry (fancy papers), as collected by Mr. Frothingham, would seem to have been: 3 establishments; \$312,000 capital; 195 hands; \$61,400 paid for wages, and \$369,550 total annual product. The business directory for 1883 gives the number of manufacturers of fancy papers as four. The other particulars will, we think, show that, though Mr. Frothingham used all diligence in collecting his statistics, he either failed to obtain them accurately, or there has been a very great increase of the business within the past three and a half years.

The leading house in this business is, undoubtedly,

MESSRS. DOTY & MCFARLAN, whose manufactory of fancy papers, the largest of its kind in the country, stands at the corner of Willoughby avenue and Walworth street. They are the successors of Doty & Bergen, who commenced manufacturing in Brooklyn about 1845. This firm was then composed of Warren S. Doty and Peter G. Bergen, the latter of whom will be remembered by old citizens as a prominent member of the Board of Education, a brother of Hon. Teunis G. Bergen, and father of the present Justice Garret Bergen. Previous to 1845, Mr. Doty had for several years manufactured fancy papers in a small way in New York city, in connection with a more considerable business in engraving and printing; but, upon the formation of the firm of Doty & Bergen, the manufacturing department was removed to Brooklyn, and carried on in a frame building on Eighteenth street, in the rear of the Bergen homestead, which stood at the corner of Third avenue and Eighteenth street, while the engraving and printing was continued in New York, in a building known as the old Rigging House, famous as the first meeting house of the Methodists in this country.

The Brooklyn manufactory, under the personal supervision of Mr. Bergen, remained thus, until a brick building on the opposite side of Eighteenth street, was built and occupied about 1853.

Warren S. Doty died in November, 1855, but the firm name was continued by previous arrangement, and his son Ethan Allen Doty entered at first as a clerk, but soon succeeded to an interest in the profits. The firm weathered the panics of 1857 and 1861, but found it difficult to compete with im-

portation of foreign goods, and made but slow headway until 1862, when Mr. Bergen retired, and the present firm of Doty & McFarlan was constituted. In 1864, the manufactory was removed to Willoughby avenue and Walworth street, since which time the buildings have been repeatedly enlarged and re-built, until now they occupy a space 100 by 200 feet, with brick buildings, five stories high, and extensions.

The specialties of the business are the printing of papers for trunk linings and box coverings, and manufacturing of surface-colored or coated papers for the use of paper box makers, printers, &c., and for use as wrappers of various articles.

This keeps in constant employment about 150 hands, while the outlay for machinery has not been less than \$50,000.

The firm now consists of Ethan Allen Doty, who entered in 1855, Edward McFarlan, who entered in 1862, James Scrimgeour, who entered as a clerk in 1862, and was admitted to the firm in 1870, and Albin Gustave Pape, who entered the manufactory in 1866, and was admitted to the firm in 1880. The warehouse is at No. 70 Duane street, New York city.

The firm has been uniformly prosperous for the past 25 years; its management is conservative, and its goods rank highest in the market. Its machinery is of the latest and most approved patterns, while its buildings, stables and stock are always in first-class order. Its goods are distributed throughout the breadth of the land, and, wherever known, enjoy an enviable reputation.

It has always led in the introduction of novelties in styles and colors, as well as in adopting the latest inventions in machinery.

The house of *Walther & Co.*, in Tiffany place, is a large house in this manufacture; though of less extent than that of Doty & McFarlan; they manufacture the same styles of papers, and by similar processes. There are also one or two smaller houses, which have recently engaged in the business.

The statistics of this industry, as nearly as can be ascertained, are: capital invested, about \$400,000; number of hands employed about 250; amount of wages paid annually, about \$90,000; annual product, not far from \$500,000.

SUBSECTION III.—*Fancy and Plain Paper Boxes.*

The manufacture of these boxes is closely allied to that of the manufacture of fancy papers. These boxes are of many kinds. The batters use immense quantities, some of them only of straw-board with labels, others of much more ambitious and ornamental character. The cheap styles are used very largely also by the match manufacturers, the common envelope makers, the dealers in small articles of hardware, and many dry groceries. The book trade requires large numbers. The Yankee notions trade requires a vast number of a somewhat better character; while the fancy goods and candy and confectionery trades take the best quality. One manufacturer makes almost exclusively the boxes for charlotte russes, with perhaps a small number for cake and bakers' fancy goods. The fine stationery trade demands also many of the better class of boxes. There are now in Brooklyn and Kings county eleven manufacturers of these goods, one of whom combines

the manufacture of candles with that of boxes. Of these *Mr. Beers Frost*, of 125 Nostrand avenue, is probably the largest. His specialty is hatters' boxes, and he supplies all the leading manufacturers. He employs an average force of 25 hands, pays about \$10,000 of wages annually, and produces an average of \$30,000 annually. After him, and producing nearly as large an amount are: *Walter W. Wetmore*; *Wm. Herschle and Son*; *John B. Hawck & Son*; *White and Jacobson*; and, perhaps, *Thomas Lenn*, the box and candy maker, his combined product being perhaps somewhat more than the others.

Andrew Wohlgenuth, *John Roberts* (whose specialty is the charlotte russe boxes), *Mrs. Wilhelmina Woerner*, *Adolph Hoeftling* and *Ferdinand Berian*, are also worthy of notice as manufacturers of boxes. The census, in 1880, reported 12 establishments, with \$49,050 capital; 213 hands, paying \$45,089 wages, and producing \$158,826 annually. There have been some changes; one or two houses have failed, but the number of hands is now about 230, and the annual product somewhat more than \$175,000.

SECTION XV.

The Furniture Manufacture.

The furniture trade has many subdivisions. Among the wholesale dealers, there are those who manufacture only chairs, and these are divided into rattan, willow, bent wood, bent seats, usually, including also the perforated veneer seats, wood chairs and rockers, and upholstered chairs.

There are other classes who confine themselves to bed-room sets, chiffoniers, tables, etc.; and even of these, there are those who cater to the cheap veneered goods turned out in the rough, in some of the densely wooded counties of New York or Pennsylvania, where woodland and water-power are cheap, and put together and finished here; others, who bring their hard wood, pine and white wood lumber from the west, and import their ornamental woods, and make all their work under their own supervision, employing hand-work for the most part, but using machinery in those delicate and beautiful adjustments, which can be effected more perfectly by machinery than in any other way. These houses supply all the best and some of the cheaper houses with their best goods.

Another class manufacture only library, office and drawing-room furniture; the finer office chairs being a specialty with some of these.

Still another class produce only parlor and boudoir furniture of various styles. This involves the upholsterers' art, and much of the best of it is done in the larger and finer retail establishments, which adapt their work to suit their customers. In these cases, however, the division of labor is carried so far that the easy chairs, couches, tete-a-tetes, sofas, lounges

and sofa beds, etc., are prepared in the wholesale upholstery factories, and only the covering is put on by the retailer.

The cheaper classes of upholstered goods, as cheap sofas, lounges, chairs, mattresses, etc., are all made in large upholstering establishments, and the quality differs with the price. Upholstery is, in effect, an entirely distinct business from the other departments of the manufacture of furniture, and when it is regarded as including mattresses, couches and beds of all descriptions, as well as window hangings, portieres, and those articles more properly considered as upholstery, it assumes a great magnitude.

The increased demand, which our fast augmenting wealth and luxury have created for the best of everything in dwellings, business houses, churches, and all our appointments in social life, is nowhere more strikingly illustrated, than in luxurious furniture and house decoration. Sixty or seventy years ago, when all the settlements in Kings County could not boast more than 7,000 inhabitants, there were a few wealthy families, mostly Hollanders, and they had some massive furniture, mostly brought or imported from Holland, often richly carved, and either of oak or dark mahogany. While most of this furniture would be too cumbersome and bulky for present daily use, it was worthy of preservation for its elaborate carving, and the grotesque figures which were so skilfully wrought on its surfaces. These articles may not have been—they probably were not—the *chef d'œuvres* of Flemish or Dutch art, inasmuch as the early settlers of Nieuw Amsterdam and Breuckelen were not generally of the most eminent Dutch families (these having remained at home), yet they were the sons or daughters of burghers who were well to do, and thus represented, in their homes in the New World, very fairly, the furniture and appliances of the prosperous burghers of Amsterdam, Rotterdam and La Hague. These old families were not, however, very numerous, and their descendants, in some cases, were too many to inherit any very large share of their ancestors' wealth. The large majority of the farming and laboring class, whether of Dutch, English, Irish or Huguenot descent, had much plainer and humbler furniture. The rude bunks or fixed bedsteads, covered, at first, with the skins of wild animals, and later, having heaped upon them the numerous feather beds, which every housewife possessed, formed a bed which was considered sufficiently luxurious for anybody. The other furniture was equally plain; the wooden, splint or rush-bottomed chairs; the settle; the plain, substantial table, often of oak, but without ornament, sometimes of pine, covered with the housewife's snowy linen; the benches and smaller table, which answered for a washstand; the rude shelves, containing a few books; the corner cupboard, with its supply of delft ware, pewter plates and wooden trenchers; and in the lean-to, the pounding barrel, soap-barrel, tubs and tubform or

bench, the paraphernalia of washing day: while still in the rear was the leach-house, where the lye for the soap was made, and the simple apparatus for making the tallow-dips, and very possibly, by their side, the quilting-bars.

There were also two other indispensable articles of furniture, now little known; the big wheel for spinning wool, and the little or flax wheel, on which was spun the linen, fine and coarse, which Katrina, by infinite toil, prepared for her own future home. Of musical instruments there were at that time very few; occasionally a spinet was put in the parlor, as the greatest of earthly treasures, but its tones were weak, harsh and metallic. The Dutch did not greatly affect the guitar or the bandolin, so delightful to the ear of the Spanish maiden; and Hans was fain to pour forth his love in the notes of the ear-piercing fife, or the more tender-voiced flute.

The change to the furniture of the present time, in the families which, though not rich, are in comfortable circumstances, is most amazing. In the parlors we find the piano generally, and the cabinet organ, also, in many cases. The walls are hung with pictures of merit, even where they are not costly. The walls, so dingy and discolored with smoke in the olden time, are now either frescoed or hung with tasteful and elegant papers. *Portieres* adorn the doors and arches, and the mantels are draped with lambrequins. The furniture of black walnut, mahogany, cherry or rosewood, exquisitely carved and decorated, and finely upholstered with silk reps, brocade or plush, mirrors, and some articles of *bric-a-brac*; while the dining-room is supplied with its fine extension table, and with solid chairs, often expensively trimmed with leather, and its substantial and often costly sideboard. The kitchen and laundry are supplied with all the conveniences for a most efficient service; the range of the latest pattern, the hot and cold water, the stationary tubs, the ironing table, the clothes-wringer, and the patent clothes-boiler, all contribute to make work easy. Ascending to the boudoir and sleeping rooms, we find a revolution so great that our grandmothers could not even have imagined it in their wildest dreams. Bedsteads which, in stately elegance, in perfection and beauty of carving and ornamentation, and the richness of their woods (of black walnut, mahogany, rosewood and cherry) far surpass the couches of the wealthiest and most accomplished monarchs of two centuries ago; mirrors which would once have been worth a king's ransom, and bureaus, lounges, sofas, easy chairs, chiffonieres, and cabinets of the most graceful models and exquisite finish, adorn these rooms, and replace the maple bedsteads, with their constantly breaking cords, their turned posts, and their scant head and foot boards, the rush or cane-seat chairs, and the plain cheap bureau with a small mirror of blown glass, which were the outfit of a guest-chamber forty or fifty years ago.

There is nothing, not only of this fine furniture, but of that still more exquisite, inlaid and decorated with the finest paintings and sculptures, in wood or porcelain or leather, which is not to-day produced, from the rough wood to the most complete finish, in Kings county.

We are not now speaking of the retail furniture houses, of which there are some hundreds, of all grades, and which may and do procure their wares wherever they can buy them to the best advantage, but of the manufacturers who sell only at wholesale.

As an example of these, take the large house of *Martin Worn & Sons*, whose immense warehouses and storage rooms, five stories high, cover eleven full city lots. They manufacture only the articles of bedroom, boudoir and hall furniture, and in this single branch of the furniture industry, embracing hall-stands, bedsteads, bureaus, wash-stands, canopy bedsteads, sideboards, wardrobes, armoires, chiffonieres, cribs, &c., &c. They employ about 225 hands, and produce goods to the value of \$250,000 or more. In their lumber yards and sheds we find the purest and whitest pine; the still finer white wood (*liriodendron tulipifera*), dear to the hearts of all cabinet-makers; the California redwood; the Oregon cedar; black walnut (*juglans cinerea*), from the West; mahogany from Honduras and the West Indies; wild cherry; the beautiful wood of the *cerasus Virginiana*, and the costly veneers of the French walnut, French and Hungarian ash, mahogany, &c. All these are thoroughly seasoned under cover for two years or more, and when called into service are reduced to their prescribed form and shape with the utmost exactness by machinery, which seems almost capable of thinking, and by skilled hand-work. The thicker veneers are sawed here, and the boards to which they are to be attached having been planed to the smoothest possible surface, they are glued on and dried under very heavy pressure. When dry they are planed and polished till all their beauty is brought out. Every joint is fitted with the most mathematical accuracy. Those portions, as fronts of drawers, bedsteads, tops and fronts of chiffonieres, sideboards, hall-stands, etc., which are to be ornamented, have the straight lines cut by a machine, and the leaves, rosettes, flowers, etc., carved by hand; or, in a lower grade of work, these ornaments are struck out by dies, working under a pressure of many tons.

The drawer fronts are attached to the sides by a new process, which, in this establishment at least, has taken the place of the old "dovetail;" the whole is done by two machines working reciprocally and most exactly to their respective patterns, the resulting portions, when matched together, making an air-tight and very strong joint. These machines, working on the end of the hard wood, and cutting to the depth of one-half or five-eighths of an inch, produce half of a joint of scallops, with pins below, wrought out of the hard wood. The

scallops come within one-quarter to one-fifth of an inch of the front of the hard wood. The rounded pins—"dowels" is, we believe, the technical term for them—are about one-sixth of an inch in diameter, and, perhaps, five-eighths of an inch in length. The softer white wood for the side of the drawer is wrought by the corresponding machine into a scalloped edge, with the holes below it, into which the dowels fit exactly. So perfectly is the work done that, after dusting, the two ends can be fitted into each other, so as to make an airtight joint, with only a smart blow of the hand. In practice these joints are coated with a very fluid glue before being put together, in order to avoid any pos-

market. Messrs. Worn & Sons' goods have a wide market, going all over the country and to other lands.

The only customers of such manufacturers as these are the furniture dealers; for they sell nothing at retail. This is equally true of the manufacturers of chairs of all descriptions, of office and library furniture, and generally of dining-room tables and furniture, of kitchen furniture, etc. The manufacturers of school, hall and church furniture, of hotel, steamboat and railway-car furniture, on the contrary, deal directly with their customers, whose bills are generally large; or take contracts for supplying to a great contractor such of their goods as he may order.



MARTIN WORN & SON'S FURNITURE WAREHOUSE.

sible danger of shrinkage. There are not, as in the old-fashioned dovetail, any sharp points or corners to break or split off; every surface is rounded, and the joint is more perfect than any dovetail joint could be. These machines enable the manufacturer to triumph over one of the most difficult operations in cabinet work.

The bedstead, bureau, chiffoniere, sideboard or other piece of furniture is now ready to be put together. It is first thoroughly rubbed down and cleaned, and all the delicate grooves and tenons cleared out and made ready for joining, the glue joints being pressed carefully into their grooves, the pins or dowels adjusted and glued, and great care is taken to have every part true, so that there may be no twisting in the drawers or elsewhere. The largest joints are often held firmly in place by vises till they are thoroughly dry. It is next cleaned again, polished and varnished or shellacked, the knobs or handles attached, and it is ready for the

MARTIN WORN, the senior member of the firm of *Martin Worn & Sons*, extensively and favorably known as manufacturers of furniture, etc., of the city of Brooklyn, was born at Weil, in Schoenbuch, Wurtemberg, Germany, January 15, 1822. His father was Johannes Worn, and his mother's maiden name was Anna Ried. His parents ranked among the respectable citizens of Weil, and gave their son instruction and set before him the examples so necessary for children. It is pleasant to say that the young man successfully profited by these. When old enough, he was placed at school in his native city, where he obtained a good practical business education. While yet young he emigrated to America, and became a resident of the city of Brooklyn, where, on April 30, 1854, he was united by marriage with Miss Bernhardina Fent. In 1862, he began the business of furniture manufacture in the immediate vicinity of his present extensive manufactory. Prosperity and success attended him, and he soon became prominent and highly esteemed in the business and social circles of Brooklyn; and at a proper time he connected his two sons, William and Charles, with him in business, under the firm name and style of *Martin Worn & Sons*.



Martin Worn

Some idea of the extent, importance and large amount of business transacted by this firm may be gained by visiting their factory, which occupies Nos. 127, 129, 131, 133 Siegel street, near Humboldt, and their warerooms, situated at Nos. 103, 105, 107 and 109 Humboldt street. A view of these buildings is seen on an adjoining page. Such a visit will not only be interesting, but profitable.

Mr. Worn is, in every sense, an intelligent and discriminating business man, with those other qualifications that adorn and make up the character of a good citizen. He has never taken any active part in politics, but has exercised the

high functions of a voter in the best possible manner, voting for the best man, regardless of political proclivities.

His influence is always given to morality and the cause of education; and while he is not connected with any religious organization, he upholds the Protestant faith.

There have been born to Mr. and Mrs. Worn six children: William, born October 2, 1855; Charles, born January 12, 1857; Anna, born July 20, 1862; John, born September 4, 1866; Mary, born July 2, 1869; Edward, born May 16, 1874. Of these, Messrs. William and Charles Worn are married.

One of our Brooklyn houses, *Messrs. Fingleton Bros.*, whose portraits grace the opposite page, are engaged in a business of so varied a character that we hardly know where to class them. They are dealers, at wholesale and retail, in furniture, upholstered goods, mattresses, stoves, kitchen furniture and utensils and baby carriages; but they also manufacture much of their furniture, upholstered goods and mattresses on their extensive premises, having a capital of \$60,000, employing about 20 men, and turning out about \$50,000 worth of goods a year.

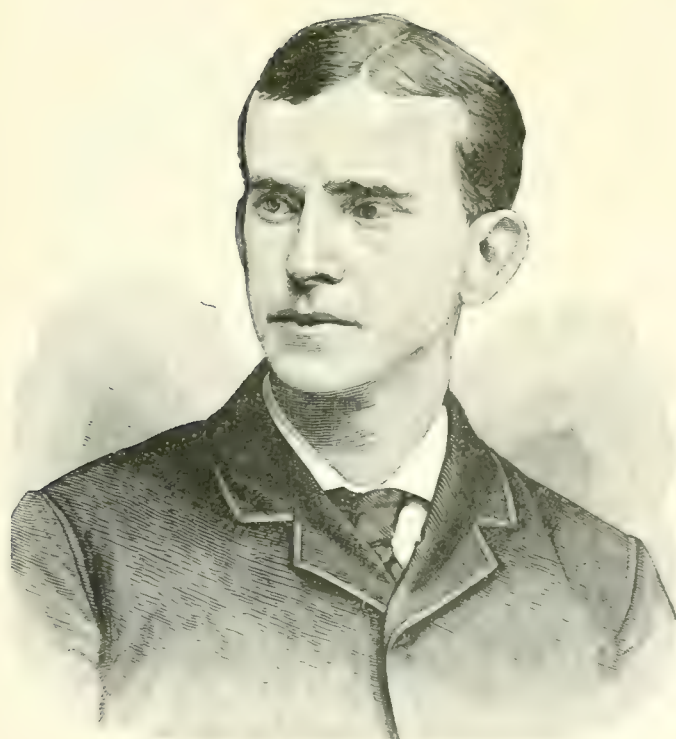
PATRICK J., HENRY W. and HUGH S. FINGLETON.—About the year 1842, Hugh Fingleton came from Ireland to New York city, where he engaged in the tobacco business. In 1848, he married Catharine Moore, also a native of Ireland.

who came to this country the same year he did. About two years later they bought land on Kosciusko street, built a house, and came to Brooklyn to live. This section was then far out in the country, and settled only by a few scattering farmers. His tobacco business in New York proved so remunerative that he was able, in 1862, to buy a lot one hundred feet square on the corner of De Kalb and Nostrand avenues, and build three stores thereon. Over these he finished a suite of rooms, into which he brought his family from Kosciusko street, but lived only a few months to enjoy his new home. He died January 3d, 1864, leaving a wife and children as follows: Patrick J., born October 10th, 1854; Henry W., born August 9th, 1856; Sarah E., born May 12, 1858; Hugh S., born March 28th, 1861. Besides these, they lost two sons, who died, one ten years and the other five months old.

On the 1st of August, 1876, the three brothers, whose portraits are shown herewith—Patrick J., Henry W. and Hugh S.



D. J. Fingleton



J. W. Fingleton



H. S. Fingleton

"FOUNDERS OF THE EAST BROOKLYN FURNITURE COMPANY."

—commenced business in one of the stores their father built, as manufacturers of and dealers in bedding. Their beginning was careful but energetic, and in the following May they added furniture of all kinds, manufacturing the parlor furniture in their own shops, 75 and 77 Kosciusko street. During the next autumn, carpets and upholstering were added to their trade, which continued to grow and expand till the original building proved utterly inadequate for its wants. In 1878, they built an extension 45 x 60, to which repairs and enlargements have recently been made to accommodate the demands of still another department devoted to stoves, kitchen utensils and baby carriages. For many years their business has been the largest of its kind between Fulton street and Broadway. But over this fair career of manly and honorable prosperity there came the dark shadow of loss of health and finally of life. During the increased burden of work and care consequent upon building in 1878, Patrick J., the elder brother, took a deep-seated cold, from which he never recovered. It is the old, old story. Neither he nor his physicians became alarmed till it was too late. Then travel was tried. He and his mother crossed the ocean, and visited the scenes where her childhood and her young womanhood had been passed. Then he went to the Adirondacks, to Colorado and to California, but that terrible destroyer, consumption, was marching him through all these weary miles only to the grave. His last winter was spent in Florida, in company with his brother, Henry.

The inevitable event occurred July 15, 1883. His remains were sadly and tenderly deposited in Holy Cross Cemetery, Flatbush, by a large circle of bereaved friends. His mother's death, which occurred January 14, 1882, was hastened by an insupportable solicitude for the life of one so near and dear to her, and her loss also hastened his decline. Her unmarried sister, Mary Moore, has for over twenty years been a member of the family, almost filling a mother's place.

The daughter, Sarah E., now Mrs. James Lynch, together with her husband, live in the home family with the two remaining brothers, neither of whom have ever married.

The business is still prosecuted with energy by the two younger members of the firm. The business involves a capital of \$60,000, gives employment to 20 men and amounts in current sales to \$50,000 per year. Its conductors have always been noted for unassuming, gentlemanly qualities, combined with intelligence, diligence and enterprise.

SUBSECTION I.—Upholstering.

In the upholstery branch of the furniture manufacture there are different methods followed from those which we have described above. There are upholsterers on a large scale, who employ a considerable number of hands. They procure or make the frames, which are usually of pine, well veneered, but sometimes, in the best goods, of black walnut, mahogany or cherry, and veneered, carved, overlaid, ornamented, &c., in such a way as will attract and please their customers; and these are then upholstered, except the outer covering; that is, the springs are put in, usually upon heavy webbing, tightly drawn, but sometimes on thin boards or iron strips. These are covered with a heavy, coarse canvass, and then the seat or back stuffed with hair, or often some cheaper material, as tow, excelsior, hay, curled palm leaf, &c., &c., is laid upon the canvass, and a heavy cotton or canton flannel is drawn over it

tightly, and, perhaps, knotted at each spring. The under surface and webbing is covered, as there is little or no strain, with colored cambrics, or, perhaps, some heavier material. These sofas, chairs, &c., thus in their undress, are sold in considerable quantities to the furniture dealers, who keep samples of the goods used for covering, which include morocco, book-binders' calf, Russia and other leathers, hair and whalebone cloth, broadcloth, reps, brocades of silk, satin or worsted, raw silk, cotton or worsted reps, &c., and cover them as desired. But the upholsterer also seeks retail custom, and upholsters a single set as readily as he would sell a hundred of his blanks to a furniture dealer.

On the other hand, many of the furniture dealers, especially those dealing with the better class of customers, though they do not attempt to manufacture any other descriptions of furniture, (purchasing it or having it made to order by the wholesale houses) yet employ a considerable number of upholsterers, some of them very skillful workmen; and, buying the frames, have them upholstered in their own establishments, and in such way as their customers desire. These houses are not generally furniture manufacturers, but they are upholsterers.

Some of the furniture manufacturers confine themselves to the manufacture and veneering of the frames of sofas, tete-a-tetes, divans, easy chairs, etc., etc., which they sell to the upholsterers and furniture dealers; and thus, unlike the class just mentioned, they are not upholsterers, but manufacturers of chair and sofa frames, etc. This is a large business, and is constantly increasing, the frames being of all classes, from the very poor and cheap to the best carved, veneered and inlaid frames. Messrs. *Christian and George Spoerl* are the largest manufacturers of these frames, and have two houses, one in Myrtle, the other in Lee avenue. The leading upholsterers who do a large wholesale business are: *Peter W. Schmitt, Rohman & Hillman, Charles M. Medicus, William Lang, Joseph Huhn and Staudinger & Goldsmith*, and *A. & C. H. Baldwin*, of Fourth street, E. D., who have a building 30x134, 4 stories high, and employ a large number of hands. Schmitt, Lang and Huhn do some retail business also, but, we believe, the others do not. Messrs. *Lang & Nau*, T. Brooks' successors, *J. G. Reither, R. G. Lockwood & Son, George A. Probst, the Cooperthwaite Co.*, and perhaps, also, the *Brooklyn Furniture Co.*, and some others, have upholstery shops, and do work for their own customers, but not as jobbers or wholesale dealers. Among these upholsterers is a specialist, *Mr. Frederick B. Jordan*, who is a manufacturer of and dealer in furniture draperies and trimmings, such as lambrequins, mantel draperies, portieres, &c., at 155 & 157 Adelphi street, corner of Myrtle avenue. He commenced business in July, 1876, with a capital of about \$8,000, employs from 6 to 24 hands, pays about \$7,500 wages, and his annual product is about \$60,000. There are also

many upholsterers, some of them excellent workmen, who start on a small scale, working themselves and employing one or two hands, who do custom work and repairing, but keep no general stock of furniture, or even of upholstered goods. In the course of a few years some of these work their way into a good business, while others drift back into the large upholsterers' shops. But for this upholstery work, many of the largest dealers in furniture would have no claim to the name of manufacturers. Another class, who deal altogether in the cheap and trashy articles, which will only hold together long enough to reach the houses of their customers, procure their goods from distant points in the country, where woods abound, and where the pieces which go to make up chairs, bureaus, tables, etc., are worked out in the rough, usually from wood only partly seasoned, often turned out in the lathes for turning irregular forms, roughly veneered, and sent to the city to be finished, where glue and putty, paint and varnish, conceal the imperfection of the work. There are more wholesale dealers in this class of goods in New York than in Kings county, and the "Cheap Johns" in the retail trade supply themselves very largely from their stock. But two or three houses in Brooklyn are engaged in finishing and selling in quantities these cheap and trashy goods. It may be said, however, in justice to Messrs. Rohman and Hillman, and the Long Island Furniture Co., in Myrtle avenue, that if they finish and sell many of these cheap goods, they also manufacture some that are of a better grade.

SUBSECTION II.—*Chairs, not upholstered, except in special cases.*

The manufacturers of chairs of bent wood, veneers and perforated seats, and of rattan, willow, etc., as well as those who make what are known as cane-seated and splint chairs, and the still cheaper articles known as common wood chairs, rockers, etc., and iron, galvanized iron, and iron wire or steel wire chairs, are a class by themselves. Each man or firm adheres to a single description of chairs, and makes only that kind, though he may indulge in the greatest variety of forms. There are ten or twelve of these manufacturers of chairs and chair seats in Kings county, and some of the wire-work manufacturers, as well as two or three of the manufacturers of fancy iron castings, may be added to the number. The chairs, settees and fancy bedsteads of the wire-workers are often very elegant and useful. The *Cable Excelsior Wire Manufacturing Co.*, Messrs. *Howard & Morse*, and, we believe, also the *Brooklyn Wire Works Co.*, make a great variety of patterns of these goods.

One firm makes only barbers' and dentists' chairs; one makes opera chairs, of iron, upholstered; two or three make wood and cane-seated chairs; three or four make cane-seated chairs, and repair these and other furniture; two are put down as chair-seat manufac-

turers; two are manufacturers of wood chairs on a large scale, and one manufactures dining-room and reading-room chairs exclusively. There are also three manufacturers of rattan goods, but they confine themselves to baskets, split canes for seats, etc., etc. The rattan chairs, rockers, *tete-a-tetes*, lounges, etc., as well as those of willow ware or osier of similar forms, which are now so popular, are wholly manufactured by three or four firms in New England, and are so protected by patents that there can be no competition. Much of this work is farmed out among families in the country towns, at a very low price. The cane seats are now largely woven by those firms, and put in in such a way as to be very perishable; and, in consequence of their mode of constructing them, cannot be replaced, except at nearly the cost of new chairs. The rush-bottomed chairs, once very popular, have been driven out of the market by the rattan manufacturers, who have bought up large tracts of the marshes, and burned the rushes, to prevent their use. The perforated and bent wood veneered chairs, made principally under Gardner's patents, are manufactured at his factories in New York, where the seats are also sold separately. The chair manufacture in Brooklyn is not very large, although considerably beyond the amount of product set down for it in the census, \$121,703. The real product of the whole eleven or twelve manufacturers is not far from \$225,000.

SUBSECTION III.—*The Decoration of Houses, Theatres, Halls, etc., with Hard-wood Trimmings.*

This, on the scale on which it is now conducted, is a new industry. Intimately connected with the finer grades of furniture is the decoration of costly dwellings, churches, hotels, halls and theatres, steamships, steamboats and palace cars, with hard woods, carved by hand, veneered with the choicest veneers, polished, and wrought in forms of great beauty. Some of these decorations are even more costly than the finest furniture which our best artists have produced, but the demand for them is large and constantly increasing. Among the houses which have attained the highest rank in this department of decorative art, is the great lumber house of *Cross, Austin & Co.* They have attached a hard-wood department to their business, and are unable to supply the demand for their exquisite products. Nothing can exceed the beauty of these veneers and richly carved woods; the panelled and inlaid doorways, newel-posts, rails, window and mirror frames, arches and alcoves, have not been equalled in the past, even in artistic France.

The *White, Potter & Paige Manufacturing Co.*, now passed into other hands than those of its original founders, is also largely engaged in the production of these hardwood and cabinet trimmings, as well as of picture and mirror frames and mouldings, hard-wood doors, and to some extent prepared lumber. Their establishment

is a large one, the lots which they occupy including about 47,000 square feet on Willoughby avenue, Sanford and Walworth streets, of which about 24,000 feet is covered with buildings. Some of these buildings are three stories, others two, and a part one story in height. The amount of lumber they use and sell in a year is 2,702,000 feet. The largest number of hands employed at one time is 308; the amount of wages paid per year, \$146,500; amount of sales of manufactured goods, \$322,500. Other hard-wood trimmings manufacturers are: *Alexander Dugan, Goodwin, Cross & Co., Dornes & Turk*, in the line of picture frames, and perhaps one or two others. The whole present total annual out-put of these trimmings is a little more than \$550,000.

SUBSECTION IV.—*Mouldings of Soft and Hard Woods, Sashes, Doors and Blinds.*

Under these two heads the Brooklyn City Business Directory for 1883 enumerates forty-four manufacturers, some of them large, and others only just beginning business. We have classed them together in this subsection, though they are, as now conducted, two entirely distinct branches of the business. By "mouldings" are understood in the trade all that variety (becoming daily more infinite) of grooved, fluted, rounded and ornamented beadings and trimmings about doors, windows, stairs, ceilings, office rails and trimmings, which in these days make the builder's work so largely a decorative art. These mouldings are wrought from either hard or soft woods by scroll, jig or band saws in part, but principally by planing knives, each adapted to make its particular moulding, and the patterns of these knives are constantly changed to satisfy the eager demand for variety, the ingenuity of the best machinists being taxed to invent patterns of new designs.

In this department of mouldings the house of *John S. Loomis* is easily foremost in Kings county. In 1849 Mr. Loomis, a native of Wyoming county, Pennsylvania, and a practical carpenter, having taken a fellow workman, James McCammann, into partnership with him, commenced the manufacture of sashes, doors and blinds, in a shop twenty-five feet square, on Tompkins place. The machinery, which was run by horse-power, consisted of one circular saw, one mortising machine, one tenoning machine, and a small sticker, or moulding machine, constructed by themselves; the Fay sticker, a small moulding machine, very defective in its working, being the only other moulding machine then in the market. The business of the young firm prospered to such an extent that within two years they were compelled to move to larger quarters. They purchased a site on Wyckoff street, near Smith, where they erected a new mill, 25x30, and two stories in height, and put in a small five horse power engine and considerable new machinery. In 1855 the partnership was dissolved, Mr. McCammann going out. Mr. Loomis resolved to enlarge his business and seek a market in the South.

He was so successful that in five years he sold out his sash, door and blind business, and devoted himself exclusively to mouldings, erecting other buildings to accommodate his fast increasing trade. In 1868, after a long and prosperous career, his mill, buildings and machinery were entirely destroyed by fire. Obtaining temporary quarters for his business, he immediately purchased the site of his present extensive works at the head of the Gowanus canal, and in less than six months had a very large mill, with abundant machinery, running full time. Since that time he has suffered the same experience of destruction by fire three times, viz., in 1870, 1876, and in August, 1881, and each time has erected larger and more complete buildings, and has greatly increased his business. The destruction in the fire of August, 1881, was complete, destroying everything except the office and storage building, and sweeping away also the adjacent sash, door and blind factory of Stanley & Unckles; yet in three months' time the present factory, said to be the largest and in every particular the most complete of its kind in the United States, was finished and in running order. The present buildings occupy the whole front (200 feet) on Nevins street, from Baltic to Butler, and extend back on both streets 225 feet, the whole space (45,000 square feet) being covered with buildings, leaving only the necessary passage ways for wagons and trucks. The corner building, 38x115 feet, is occupied on the first floor and basement by the turning, carving and sawing department. The second story is fitted up as a carpenters' or joiners' shop, with the most improved labor-saving machinery. Here are made window-frames, wood mantels, panel work of all descriptions, employing a large force of first-class mechanics. The third floor is used for storage and other purposes.

Adjoining on Baltic street is the machine shop, where the machines used in the establishment are made, and all necessary repairing is done. The next is the stair-building shop. Then come the storage sheds where kiln-dried lumber is stored ready to cut, and on the rear we reach the drying kilns, six in number, built of brick and extending from Baltic to Butler streets, a distance of 200 feet, with capacity for drying 180,000 feet of lumber at once, and insuring a constant supply of thoroughly seasoned lumber.

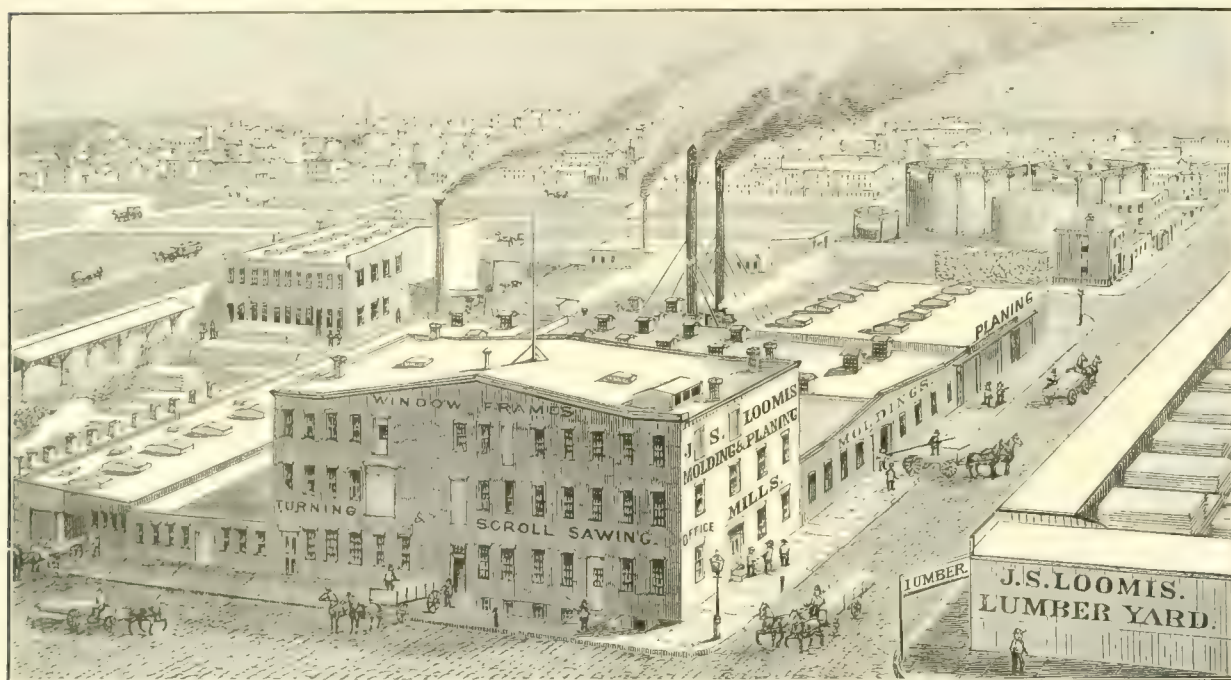
The remainder of the ground is occupied by one large mill building containing 13 moulding machines, capable of producing 130,000 feet of worked mouldings a day; 3 large planing machines, band, jig, circular and other saws, and the necessary belting and shafting for driving them; in the centre of the mill, the "knife room," where the moulding cutters are made and where, on shelves, each numbered in order, the knives or cutters are stored after their manufacture or repair. Two men are constantly at work making new knives. The shop is fitted up with a portable forge, anvils, tanite emery wheels, etc. In this same mill are also the sand-

papering machines, invented by Mr. Loomis, and used exclusively in this establishment. On these machines the mouldings receive the smooth finish for which Loomis' mouldings are noted in the trade. Two of these machines now do the work of from 60 to 80 boys, and accomplish it much more skillfully and satisfactorily, preserving all sharp corners intact, and finishing uniformly, and without injury, all surfaces and delicate members of the moulding.

Mr. Loomis also owns and occupies a lumber yard 100x225 feet, on the canal, at the corner of Carroll and Nevins streets, for receiving and piling his lumber, and another yard 100x100 feet, opposite his mill on Nevins street, where he keeps for sale all descriptions of

Court from 1675 to 1687, and died in 1688 at the age of 66 years. The son of Thomas Loomis, of Windsor, was Thomas Loomis, of Hatfield, Mass., born in 1653. His son was Thomas Loomis, of Lebanon, Conn., born in 1684; and his son Lieutenant Thomas Loomis, also of Lebanon, born in 1714. Captain Isaiah Loomis, also of Lebanon, was a son of the lieutenant, and a soldier of the Revolution; he was born in 1749. Sherman Loomis, of Centremoreland, Penn., was the son of Captain Isaiah, born in 1787, and was the father of John Sharp Loomis.

In 1846, John S. Loomis went from Wilkesbarre, where he had learned his trade as a carpenter, to South Carolina, and was engaged, under A. W. Craven, in building the Camden & Gadsden Railroad, one of the last links in the first railroad connection between the North and the South. In 1847, he came to Brooklyn, and entered the shop of Thomas Baylis,



J. S. LOOMIS' MOULDING AND PLANING MILLS.

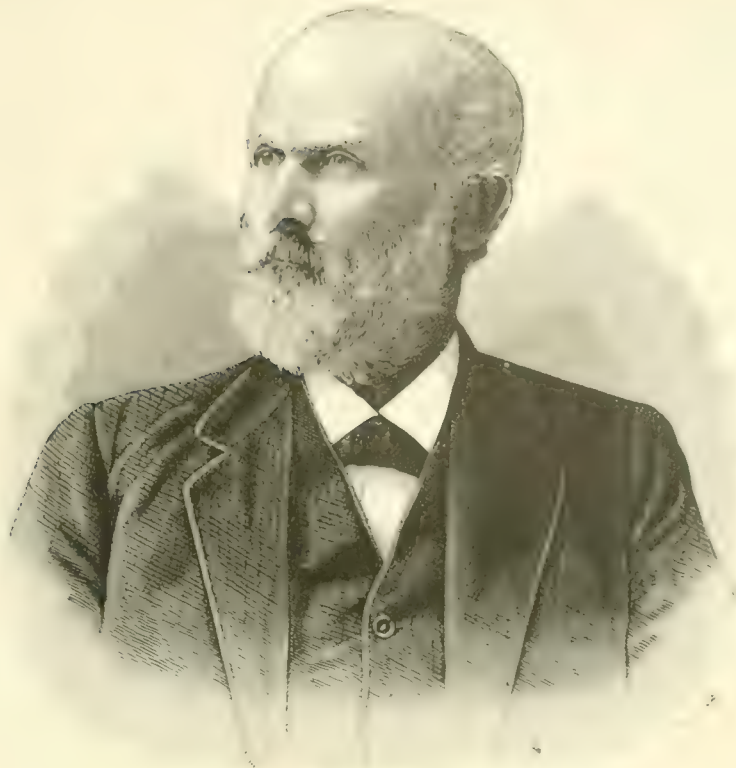
dressed lumber for the local trade. Mr. Loomis requires annually for his business about 6,000,000 feet of pine lumber and 750,000 feet of hard-wood.

Mr. Loomis does also a very considerable business in the production of hard wood trimmings in addition to his mouldings manufacture. He employs about 120 hands; paying annually about \$92,000 wages, and producing annually mouldings, &c., to the value of about \$350,000.

JOHN SHARP LOOMIS.—The subject of this sketch was born in Centremoreland, Wyoming county, Penn., June 12, 1825. He is of strictly Puritan stock, his first direct ancestor in this country having been Joseph Loomis, a woollen draper, of Essex county, England, who came to Boston in 1638, and removed to Windsor, in the Connecticut Colony, in 1639. One of his five sons was John Loomis or Loomys, another Thomas Loomis, both of Windsor, and both men of substance and distinction. Thomas Loomis was a deputy to the General

who was at that time one of the leading builders in the city. About a year later he formed a partnership with James McCammann, a fellow workman, and started a small mill in Tompkins place for the manufacture of sash, doors and blinds. Their mill was only 25 feet square, was run by horse-power, and contained a very few machines.

They were compelled, by the increase of their business, to remove to larger quarters in Wyckoff street, near Smith, at the end of two years, where they had nearly three times as much room and a steam-engine of five horse power. In 1855, the partnership was dissolved, Mr. McCammann going out, and thenceforward Mr. Loomis continued the business alone. He now turned his attention to the extension of his trade with the south. He had added mouldings to his products, and in five years had created so large a market for his work in the southern states, that he sold out his sash, door and blind interest, and confined himself exclusively to the manufacture of mouldings and turned work. Notwithstanding the derangement of business consequent upon the war, his trade constantly increased, and he was in the height of a prosperous and growing business, when, on the 6th of June, 1868, his



J. S. Loomis

mill was entirely destroyed by fire. He instantly made temporary arrangements for continuing his business, and purchased the site which his present mill occupies, at the head of Gowanus canal, on Nevins street. Here, by the first of December, 1868, he had completed a very large manufactory, replete with every convenience, for his business. Here the increase of his trade surpassed all his former anticipations. It would seem that Mr. Loomis would be justified in calling his manufactory the "Phoenix" works, for, since his removal to Nevins street, he has three times seen his buildings and machinery and stock destroyed by fire. These fires occurred in 1870, 1876 and in August, 1881. The last fire was especially destructive, sweeping away another factory as well as his own. But three months later he had finished a new factory, larger, and every way more complete in all its appointments, than any of its predecessors had been. Elsewhere we describe this new factory, with its numerous buildings. Suffice it to say, that it is fully supplied with machines of the latest and most approved patterns, many of them of Mr. Loomis' own invention, and that the extensive machine shop connected with it is constantly making additions to its appliances for turning out perfect work. There are other moulding and turning mills in Brooklyn, of great extent and capable of turning out excellent work; but none, in all respects, equal to this. He is now also occupied quite largely in what is known as the "hard-wood department" of the moulding and trimming business. This consists in the manufacture of ornamental door and window frames, rails, Newel posts, etc., etc., which are richly veneered, inlaid, carved, etc., for halls, theatres, opera houses, hotels,

steamboats and private dwellings. The industry is a comparatively new one, but is rapidly growing.

Mr. Loomis' business, which began with the Brooklyn trade, now extends throughout the eastern, middle, southern and southwestern states, and he is also frequently receiving orders from the West Indies, South America, England, Scotland, Australia, New Zealand, South Africa and other countries.

Mr. Loomis is a thorough-going business man, and possesses a genial and sunny temper, which has drawn around him a host of friends. His generous and social disposition; his undaunted pluck and self-poise in the midst of disaster, his confident leadership in perilous enterprises, his courage, hopefulness and perfect self-control amid the wild and chaotic excitement of the great fires which have so often destroyed his property; the quiet firmness and resolution with which he has retrieved his fortunes; and the constancy of his friendships, render him a man to be admired and loved by all who know him.

Mr. Loomis' family consists of his wife and three grown-up sons, two of whom are in the business with their father. He has always been a republican in his political relations, though not a partisan. He was one of the original stockholders and directors of the Sprague National Bank.

Mr. Loomis has always held that the eye of the master is the best guaranty of the perfection and excellence of the work which he offers to the public; and, acting on this conviction, he may be seen, at almost any hour of the day, overlooking, inspecting and directing the work on which some of his 120 workmen are engaged.

The manufacture of *sash, doors and blinds* describes itself. It is constantly increasing, and these goods, we believe, owing in part to the strong competition, are better made, and of more thoroughly seasoned lumber, than formerly. The trade is almost entirely local, as every city and large village has its factories for the production of these articles, so necessary for the builder's use. Of late, even hard-wood doors, of the best quality, carved and ornamented, are made in these factories. The census of 1880 reported 24 of these establishments with a capital of \$368,350, employing 637 hands, and paying \$190,509 wages; using \$398,679 of material and producing \$738,722 annually. As the census makes no separate mention of mouldings or hard-wood trimmings, it is probable that these were included. Now, the business directory of 1883 reports eight houses engaged in making mouldings, etc. (there are really twelve), and in the county 38 manufacturers of sash, doors and blinds. The number of hands employed exceeds 750, and the production, aside from mouldings is over \$1,000,000. The largest houses in the business are *Louis Bossert, Alexander Dugan, Goodwin, Cross & Co., Stanley & Unckles, R. F. Whipple, H. Kirk & Morgenthau, Welsh & Little, Long Island Saw and Planing Mills, South Brooklyn Saw Mills Company, William Skidmore, etc., etc.*

SUBSECTION VI.—*Mattresses, Spring Beds and Bedding.*

More intimately connected with the furniture trade than the hard-wood trimmings, or the mouldings and the sashes, doors and blinds, are the *mattresses, spring beds and bedding*. Mattresses are made of exceedingly various materials. The material most valued by housekeepers is genuine, pure, curled horse-hair; and mattresses containing this article, and nothing else, always command a high price. There are many cheaper materials, used either by themselves, or to cheapen hair mattresses, however, which have a considerable sale. Deer's hair is used by one manufacturer for ship mattresses, on account of its buoyant quality, as it is said that it cannot be made to sink; Russian felt is used for its freedom from vermin; curled husks, tow, excelsior, shavings, Spanish moss, curled palm leaf, hay, straw and moss are also used in the cheaper mattresses. There are also mattresses of woven wire, of spiral springs, upholstered and not upholstered, of coiled springs, and of almost every description of springs, and fastened in an almost infinite variety of ways. Then there are beds or mattresses of feathers, of down, of cotton, of wool, and of vegetable wool and woolly plants. Nearly every description of mattress named is manufactured here. The census reported but seven manufacturers of mattresses and spring beds, employing 36 hands and producing \$137,676 of goods; but this was a most remarkable under-estimate. Of the hundreds of upholsterers and furniture dealers, there

is hardly one who does not make mattresses of some kind, and most of them many kinds; while there are 24 houses, some of them large, who make the manufacture of mattresses and spring beds their sole occupation. It is, of course, difficult, and perhaps impossible, to come at any very near approximation to the amount of business done in these goods, but it is certainly within bounds to say that, including the export of special spring beds and mattresses made here, the whole number of hands employed is not under 250, and the production above \$500,000. The leading houses who are specially engaged in this manufacture are: the *Brooklyn Spring Bed Co.*, who manufacture woven wire and other mattresses, at 56 Flatbush avenue; they employ ten men and turn out mattresses to the amount of about \$50,000; *John Wood*, of 223 Fulton street, whose business was established in 1864, and who turns out about \$60,000 of furniture and bedding annually; *William S. Fogg & Son*; the *Metropolitan Manufacturing Company*; *J. & R. Ainslie*, of 20-22 Broadway, E. D., who make a specialty of peculiar metallic spring mattresses of great excellence, employ 15 hands, and produce goods to the value of about \$52,000 a year; *K. C. Bradford*; the *Metallic Upholstering Company*; *L. Goodwin*; *Edwin P. Fowler*; *George S. Goodwin*; *L. Drew*, whose house has been established for more than 56 years; his business in this line is largely wholesale, and his customers are the best furniture dealers in Kings County; he connects feather dressing and renovating with his business, and also bedding in general; *Samuel H. Mills, William T. Fish, etc., etc.*

The census returns of all branches of the furniture and upholstering manufacture are somewhat more than \$2,800,000 and 2,065 hands employed. Adding for mouldings and hard-wood trimmings, and the defective report of mattresses and spring beds, and the very great increase of the business within four years, and we have an aggregate of more than \$4,500,000 in all branches of the business, and more than 3,000 hands employed.

SECTION XVI.

Publishing and Book Manufacture.

The item, "Printing and Publishing," in the census of 1880, is misleading in many respects. Sixty-four establishments were reported, with \$889,284 capital, employing 1,299 hands, paying \$522,075 wages, using \$552,610 material, and producing \$1,549,743 of books, papers, pamphlets and job work. This enumeration included every little job office in the city; but it would seem to have omitted the three great book factories of Brooklyn—or, rather, two of them, as Messrs. Barnes' factory was not erected till 1880—for Mr. Frothingham's report, which did include these, gave 68 establishments, with \$994,384 of capital, employing 1,448 hands, paying \$562,613 wages, using

\$496,610 of raw material, and producing annually \$2,062,293 of books, papers, &c. The census office, doubtless, concluded in these cases, as they have in many other Brooklyn manufactures, that since the goods were sold in New York city, Brooklyn was not entitled to the credit of their manufacture. But, as a matter of fact, the greater part of the product of these great book manufactories is shipped direct from the factories, by telegraphic and telephonic orders, and never enters the New York warehouses. The capital is invested here, the whole process of manufacture is

The Free Press and *The Brooklyn Daily Union*, all do a very large business, and having job offices attached to them, turn out a vast amount of printing annually. These four newspapers, with their advertisements and their job offices, have an aggregate production of not less than \$700,000 annually; adding to this the seventeen or eighteen other newspapers, periodicals and magazines (not including the advertising sheets), and we have an aggregate annual production of not less than \$1,050,000. Of the other forty-two or forty-three printing establishments, some are connected



D. APPLETON & CO.'S BOOK MANUFACTORY

conducted here, and the perfected product is stored here, ready for shipment to any point where it is needed. But, though Mr. Frothingham's annual product exceeds that of the census office by more than \$500,000, it does not adequately represent the immense production of these great houses, as we shall see presently.

Under this heading, the census, undoubtedly, includes the printing and publishing of the daily and weekly newspapers and the monthly publications. We describe these more at length under the head of "*The Press and Journalism*." Suffice it to say, that *The Brooklyn Daily Eagle*, *The Brooklyn Daily Times*,

with book-stores and stationery houses; some are jobbing offices, which have a good business in connection with large manufacturing, commercial or business houses; some are connected with banks, insurance and real estate offices, and draw their business mainly from them, printing the advertising sheets which are so common, and other jobbing work. Most of the great manufacturing houses have a printing office of their own. Taking these all together (and the number has probably increased since 1880 to about 60), and their annual production is not less than \$500,000, and may considerably exceed that sum.

But the production of the great book factories exceeds that of the newspapers and job printers together.

The first of these in Brooklyn in the order of time, and probably the largest in extent, is that of Messrs. D. APPLETON & Co., at 201-219 Kent avenue. The Messrs. Appleton, booksellers in New York since 1825, and publishers since 1831, had found their publications becoming so numerous as to require facilities of their own for the manufacture of their publications. They commenced a bindery in New York city in 1854, a printing office with eight power presses, and 26 hands in Franklin street, New York city, in 1855, and a composition and electrotyping department in Greene street, New York, in 1864. Mr. Matthews was, and still is at the head of their bindery; Mr. Dunne at the head of the printing department, now enlarged to 21 Adams presses and 150 hands, and Mr. William H. S. Werry, deceased in 1875, and succeeded by his son, Edward Werry, was at the head of the composition and electrotyping department, which originally had twelve hands, and now has more than 100.

In December, 1867, Messrs. Appleton erected their present book factory in Kent street and consolidated all their departments under one building or series of buildings. This is said to be one of the largest and most completely appointed printing and binding establishments in the world. The bindery alone is 250 feet long and five stories high, and has about 425 hands employed. The printing office and the composing and electrotyping rooms occupy another large building, and still another has been erected for the storage of books, as well as extensive vaults for plates. The firm now employs about 700 hands, pay out \$325,000 annually for wages, and their annual product in this factory is between \$700,000 and \$800,000.

They have a restaurant for their hands in the building, which furnishes meals at the bare cost; two sick benefit organizations have been organized; there is an excellent circulating library for the operatives, founded in memory of George S. Appleton, deceased, a former member of the firm, and the *Appleton Mission*, which provides religious services free of charge to all who choose to attend them.

Messrs. *McLoughlin Brothers* were the next of these book manufacturers to establish a large book factory in Brooklyn. They had been for many years engaged in the manufacture and publication of colored toy books, games and toys in New York at first, from 1840 to 1850, as Elton & Co., and from 1855 under the present firm name; but finding occasion for larger quarters, they removed to Brooklyn in 1870, and erected their present spacious factory at South Eleventh street, corner of Third. Here they employ about 350 hands, and produce a very large amount of toy books, colored and plain games, and toys. Their business has grown steadily from year to year. All their books, toys, etc., are sold in New York.

The third, in the order of time, of these great manufactories, is that of Messrs. A. S. BARNES & Co. This house has been in business as publishers since 1838, at first in Hartford, Conn.; afterward in Philadelphia, and since 1845 in New York city, where they originally occupied a store and warehouse at the corner of John and Dutch streets. Their quarters becoming too strait for them, they purchased the five-story store and warehouse, on the corner of William and John streets, in 1868, reserving the old store and warehouse, as well as a part of the new, for manufacturing purposes. In 1880, they had outgrown these quarters, and Mr. Barnes erected their present large manufactory in Brooklyn, on the corner of Liberty and Nassau streets, 75x100 feet, and six stories high. To this new building they removed their printing offices, bindery, packing, and in part, their storage rooms. Twenty power presses are kept continually running on the school-books and other publications of the firm, and most of their orders are shipped to their point of destination direct from the factory. Mr. Edwin M. Barnes, the third son of Mr. A. S. Barnes, is in charge of the manufactory.

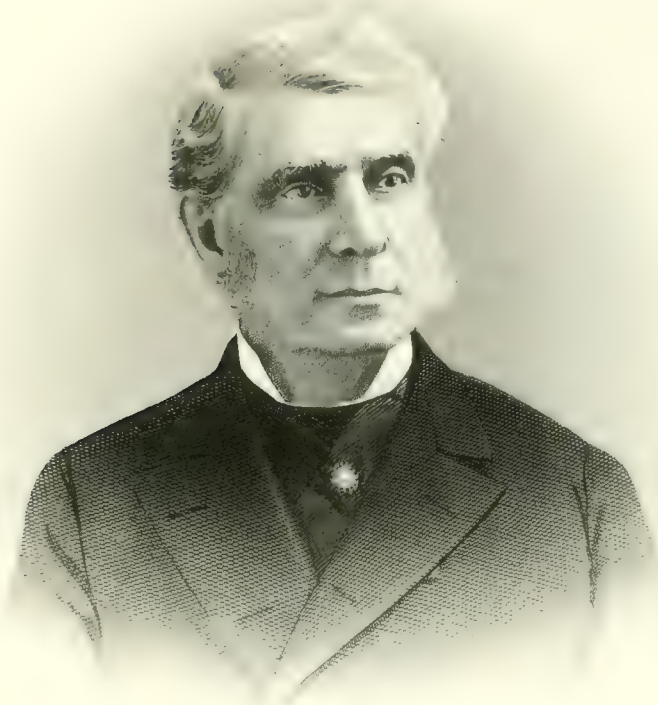
The number of hands employed in all departments of the factory is about 250, and they turn out over a million of school-books annually.

These three manufactories are, we believe, all, which are regularly engaged in the production of books in Brooklyn; certainly, they are all which are conducted solely for the account of the publishers who own them. Their aggregate production, as we have seen, is above \$1,600,000, and the aggregate number of hands employed about 1,350.

A. S. BARNES.—There is, perhaps, no department of enterprise and industry, which has been more marked in its development within the past few years, than that of the publication of school books.

The small store, with some dozens of spelling-books and readers, with copy-books and arithmetics, in still smaller quantities, has given place to the present mammoth establishment, turning out from its immense power-presses, and well appointed bindery, its thousands—nay, millions—of volumes yearly, embracing every department of human learning for which a text book has been, or can be, prepared. In very few establishments in the world, probably, has this development from a small beginning to a great enterprise, been more fully exemplified than in the house deriving its name from, and owing its foundation and great success to, the subject of our sketch.

It has steadily grown, from its first modest quarters of twelve by twenty feet square in Hartford, in 1838, to the occupation of buildings in Brooklyn, New York and Chicago, whose floors may be measured by acres, and the product of whose presses goes out by tons and car-loads to every part of this and many foreign



A. J. Barnes

countries. ALFRED SMITH BARNES, the founder of this establishment, was born in New Haven, Conn., Jan. 28, 1817. His father, Eli Barnes, was a native of Southington, Hartford county, and his mother, Susan Morris, of East Haven, Conn. Eli Barnes was originally a farmer, but subsequently became a merchant at New Haven, where he died in 1827, leaving a widow and five children. Of Mrs. Barnes, it is said that "she was the daughter of pious parents and a worthy member of a godly race. In her widowhood she was not alone. She trusted in pious confidence to Him who hears the prayers of the afflicted, and pours out the oil of gladness into sorrowing hearts; her labors were crowned by the highest rewards. Her family grew up under her care, and under the influence of her pure and earnest life. She impressed upon them the convictions of a religious mind, and under these convictions not only guarded them from evil, but conducted them to honorable successes." Alfred was the second son, and at the age of 11 years he was placed under the care of an uncle at Hartford. He attended school during winter and labored on a farm during the summer months, thus combining manual labor and intellectual discipline in laying the foundation of future usefulness.

At the age of sixteen years he entered the store of D. F. Robinson & Co., of Hartford, Conn., at that time one of the leading publishing houses of the country, as a clerk, and, at the same time became a member of his employer's family. Here he received the advantages and influences of a christian home, which, added to the teachings of a pious mother, gave a decidedly religious bent to his mind, which has found development in later life in an active connection with church and Sabbath school, and all kindred work, and laid the foundation of those strict principles of integrity that have made his name respected in the business circles wherein he has moved. In 1835 Messrs. Robinson & Co. moved their business to New York city, where the young clerk caught his first glimpses of the methods of conducting the more extensive business of leading houses in the metropolis, and at the great centers of trade. This larger experience was of great value to him, and finally determined his partially formed plans for the future. In February, 1838, being then just 21 years old, and having completed the term of his clerkship, he entered into a partnership with Prof. Charles Davies, formerly of West Point, but then residing in Hartford. The first efforts of the new firm, then and thereafter to be known as A. S. Barnes & Co., were in the publication of Prof. Davies' admirable series of mathematical works, Prof. Davies receiving a portion of the profits in addition to a fixed copyright. The first quarters of the new firm consisted of a small room on Pearl street in Hartford; and here, without other capital than the intelligence and tireless energy of one partner and the intellectual ability and thorough knowledge of this subject and training for his work on the part of the other, began an

enterprise, that for at least one of the best of his long life work, and which from that time to this beginning has developed into the largest and most popular school-book publishing house in the world. During the first two years of the existence of the firm, Mr. Barnes spent a considerable portion of the time in an active canvass of academics, schools and colleges in all parts of the country, for the purpose of introducing Prof. Davies' works. Their first volume, Davies' Arithmetic, was intended to be and was the germ of the first complete series of mathematical text-books ever attempted in this country, a series that has become extraordinarily popular, and even yet is selling largely, and is recognized as a standard authority. Mrs. Emma Willard's Histories were soon added to the firm's list of publications, and others gradually followed. In 1840, Mr. Barnes opened a book store in Philadelphia, and in 1842 removed the manufacturing department also to that city. In the new location, 21 Minor street, their business was largely increased, and they added to their stock the publications of other houses. The steady though gradual growth of the business finally determined the firm to again remove, this time to New York city, which offered superior advantages for the prosecution of its work. Their first store in that city was at the corner of John and Dutch streets, and the upper floors were used for the printing and binding of their publications, beginning with four two-roller steam power presses, and a moderate outfit for their bindery. After a short time two more power-presses were added, and rooms in the adjoining building were rented to meet the wants of their growing business.

One after another the works of other writers on educational topics were added, besides works of a miscellaneous literary character, other than school-books, until now their list embraces nearly all branches of science and literature; and the sale, promoted not only by the intrinsic merits of the works themselves, but by a most extensive and complete system of agencies and local canvassers, numbers millions of copies annually. In 1868 the business had so outgrown their original quarters, that they removed to their present 5-story building at John and William streets. This property was purchased by Mr. Barnes and used as a store and warehouse. Mr. Barnes also purchased the Dutch street corner, where they had so long conducted their business, using it exclusively for manufacturing purposes. This department outgrew their quarters, and in 1880, he purchased ground and erected a building 75 feet front, 100 feet deep, and six stories high, on the corner of Liberty and Nassau streets in Brooklyn, premises formerly owned by the First Baptist Church Society.

To this, they removed their printing offices, bindery, packing, and in part, their storage rooms; here about twenty power-presses are kept constantly running on the school-books and other publications of the firm, and from this point most of their production is shipped

to all parts of the country. Mr. Barnes for many years attended to the work of manufacturing. His sons have successively followed him, thus familiarizing themselves with all the intricate details of the business. His third son, Edwin M. Barnes, is now in charge. In the many years existence of the firm of A. S. Barnes & Co., many changes have taken place in its *personnel*. Prof. Davies' connection continued about ten years. In 1850 a brother-in-law of Mr. Barnes, Mr. Henry L. Burr, entered the firm and continued as a member of it until his death in 1865. About this time Mr. Barnes' brother, John C. Barnes, and his son, Alfred C. Barnes, and, in 1868, Henry W. Curtiss, became associated in the business. Since then other members of the family have joined the firm, Mr. J. C. Barnes withdrawing in 1867 and Mr. Curtiss in 1881. The firm now consists of five of the sons; A. C., H. B., E. M., R. S., and W. D., and a nephew, C. J. Barnes, who is in charge of the Chicago branch of the house. Mr. A. S. Barnes continues at the head of the business, though less actively than formerly, the burden of labor and responsibility being thrown upon the younger partners. The old firm name, one of the oldest in the country, is still retained.

Although generally successful, Mr. Barnes has passed through the usual storms which assail any long continued business.

The panic of 1857, and the breaking out of the war, were especially trying, but through all he has maintained the strong and untarnished credit of the house. His well known probity, as well as his industry and perseverance, gained for him the confidence of all, and in the darkest hours, willing hands were not wanting to aid in tiding over the exigencies of the moment. Besides the constant attention given to affairs of the publishing house, Mr. Barnes has found time to embark in other enterprises, the final success of which well attest his judgment and foresight. One of the earliest promoters of the elevated railway system of New York, he never, like many others, lost faith in its ultimate importance, and his faith was finally rewarded in its successful establishment. The Central branch of the Union Pacific railroad in Kansas, was another enterprise in which, after many years of delay and discouragement, his distinguishing characteristic, persistency, brought him gain. Among the offices of trust and responsibility which Mr. Barnes has sustained outside of his business, have been those of director of the Hanover National Bank of New York, of the Dime Savings Bank of Brooklyn, and the Home Insurance Co. of New York. At different times he has been, and still is, a trustee of the Brooklyn Collegiate and Polytechnic Institute, and of the Packer Institute; of Cornell University at Ithaca, N. Y.; of Fisk University at Nashville, Tenn.; one of the original promoters of the Adelphi Academy of Brooklyn, and a director of the Long Island Historical Society.

Mr. Barnes' family relations have always been of the pleasantest and most fortunate kind. His first wife, Harriet E. Burr, whom he married in 1841, was, like himself, of Connecticut stock; her father, Gen. Timothy Burr, of Rochester, N. Y., and her mother, Mary Chapin, a daughter of Laertes Chapin, were natives of Hartford, in that State. This union was blessed in Philadelphia by the birth of two children, the number subsequently increasing to ten. Mrs. Barnes was her husband's companion for forty years, and he speaks of her as "My joy and comfort, who contributed largely to my success in life; a devoted wife and mother, and an earnest Christian, largely interested and engaged in works of benevolence and charity." She lived to see all her children married, and the birth of twenty-four grandchildren, and then passed suddenly away, Oct. 27, 1881. Mr. Barnes has borne fruit throughout his life, in a constant and consistent attention to his religious duties as church member, Sabbath-school teacher and superintendent; and, in many positions of trust and responsibility in connection with churches, charitable institutions and missions, he has brought to his work the same earnest energy, and single-heartedness of purpose, that has made his business life successful. He united with Rev. Dr. Bushnell's church in Hartford, at the age of seventeen. On going to New York, in 1835, he transferred his church relations to the Rev. Dr. Spring's (Old Brick) Presbyterian church and became a Sunday-school teacher in one of the first Mission Sabbath-schools in New York, under the superintendence of Mr. Albert Woodruff. While in Philadelphia his church relations were Presbyterian, and under the pastorate of Rev. Joel Parker, he was a Sunday school teacher at the House of Refuge, during his residence in that city. His first home in New York was at the corner of Amity and Macdougall streets, and while living there the family worshipped in Dr. Skinner's church in Mercer street. When, in 1846, he removed to Garden street, Brooklyn, he identified himself with the Church of the Pilgrims, Rev. Dr. Storrs, again entering upon Sunday-school work among the poor. In 1850 he was elected a deacon in that church. In 1853 he built his present large and elegant residence on Clinton avenue. Soon after his removal thither, he became interested in the establishment of a new Congregational church on the corner of Clinton and Lafayette avenues. During the first few years of the existence of this church, Mr. Barnes was President of its Board of Trustees, and it was largely due to his energy and perseverance that the financial embarrassments of the society were overcome. Resigning this position finally, he became the superintendent of the Mount Prospect Mission, established by his church, and in 1864 superintendent of the Home School of the church, which position he held till 1871. He was also for eight years a deacon of this church. Besides all these labors, Mr. Barnes has taken great interest and participated in

the direction of many other works of a kindred nature. He is now President of the Brooklyn City Mission and Tract Society, and of the "Good Samaritan;" Trustee of the American Tract Society of New York, the American Missionary Association, and of the American Home Missionary Society. As might be expected, amidst all this complexity of pursuits and interests, both spiritual and temporal, his time has been occupied so fully as to leave small opportunity for recreation. In 1871, however, he laid aside all his business, and in company with his wife and one daughter and one son, spent a delightful year in a tour through Europe, returning at its close to take up the scattered threads, with renewed vigor and interest. Notwithstanding his increasing years, and the unusually active and busy life he has led, Mr. Barnes, now sixty-seven years of age, is still hale and vigorous, and bids fair to add many years yet of labor to those which have already added honor to his name, and brought him that well earned competency which we hope he may long enjoy.

Mr. Barnes was married again on the 7th of November, 1883, to Mrs. Mary Mathews Smith, formerly a resident and teacher in Brooklyn, and more recently of Piermont-on-the-Hudson.

Of the other publishing houses here, it is said that *Lain & Co.*, the directory publishers, have their composition and electrotyping done in New York, and their press-work in Brooklyn. We believe this is true, also, of the moderate amount of publishing done by *W. W. Swayne & Co.*, and *Higgins & Crowther*. On the other hand, in the present disturbed condition of the New York printing offices, several of the smaller publishing houses in New York are arranging with our larger printing offices here for the manufacture of their books.

It is safe to say that the entire printing, publishing and book manufacturing interest in Kings county has an annual production of not less than \$3,500,000, and it has just reached the point where its extraordinary development may be fully expected. The census of 1890, if it represents this interest with any approach to accuracy, will show an annual production of \$7,000,000 or more. This increase will come by the removal of the book manufacturing of other large publishing houses from New York to our city; by the fitting up here of large printing offices capable of taking any contract, and not controlled by the typographical unions; and by the development of large publishing enterprises here. In hardly any of our larger industries is the outlook for a rapid and healthy growth, in the near future, more promising.

The only manufacturing stationers in Brooklyn are also book-binders. Of these the census reported four, employing 23 hands, and producing \$17,691 of work.

The report is absurdly low. We have already referred in this section to the immense binderies of Messrs. D.

Appleton & Co. and A. S. Barnes & Co., which together employ not less than 200 hands, and turn out for their part at least \$5,000,000 of work. Mr. Wm. Mathews, the superintendent of Appleton's bindery, at Hudson, has considered a great number of the books of that house and Messrs. Barnes' bindery also does outside work on Illustrated History books bound there. But aside from these there are at least half a dozen in the city, some of them very large establishments, and three or four of them making book backs, and general bookbind record, and work for business firms, a specialty; three certainly make a specialty of binding illustrated and professional works, and one contracts for large editions of school-books. The number of hands employed in these ten establishments, besides those in Appleton's and Barnes' factories, is not less than 150, and the production about \$1,500,000. Of these houses the most prominent are: *H. Maine*, 377 Fulton street; the *New York Book-binding Company*, 46-48 Court street; *The Brooklyn Eagle-Binder*, 14 Fulton; *George Kenney*, 94 Cranberry and 170 Fulton; *E. Walker's Son*, South Portland avenue; *Joseph E. Kenney*, 200 Joralemon; *Ernest Hofer*, 15 Stagg street; *Timothy Ryan*, 100 Court street; *Joseph Ricklin*, 235 Sixteenth street; and *Adolph Wentzel*, 93 Harrison avenue. In this department, also, there is an opportunity for a great development of a business which is capable of almost indefinite expansion.

SECTION XVII.

The Hat Manufacture.

The manufacture of *hats* and *caps* is a large business in Kings county. The census for 1880, in its ultimate revision, gives the figures as follows: Hats and caps, not including wool hats,* 32 establishments, with \$533,915 capital, employing 1,392 hands, 487 being women and children, paying out \$626,504 wages annually, using \$999,218 of material, and producing \$1,978,145. Like so many other statements of our manufactures, this, when compared with recent returns, seems to be greatly understated. The returns of three of the thirty-two now before us, give an aggregate of \$600,000 capital, \$1,000,000 wages, and \$2,000,000 of material. If the remaining twenty-nine double these figures, it is but fair to say that Mr. Frothingham found 39 establishments, with \$898,590 capital, employing 2,259 hands; paying \$718,694 wages; using \$1,501,940 material, and producing \$3,118,000 of goods. As far as can be ascertained, the total figures for the hat manufacture—including hat materials, but not including caps—are, in round numbers, 11 establishments (the others are dealers, and men who finish and revive hats, but do not manufacture), having about \$1,000,000 capital, employing 2,500 hands, paying about \$1,000,000

*The census of 1880 reported 12 establishments, employing 120 hands, and producing \$100,000 of work.

wares, using about \$1,000,000 materials, and producing over \$4,500,000 annually.

The hat manufacture, as conducted in Kings county, may be divided into the following classes: 1. *Silk hats*. Of these there are not more than three or four manufacturers, and only one who is largely engaged in it; there are many others who profess to manufacture these hats, but they only finish them, or perhaps remove the silk plush from old hats and put it upon new bodies, and iron, dress and trim it, so as to give the appearance of a new hat to it; but these are not manufacturers. 2. *Felt hats*, including ladies' felt hats. These are made from the fur of the beaver, nutria, hare, muskrat, mink, coney, Siberian squirrel, etc. These hats are of several qualities; some only of the finest furs, and the felting and all the more delicate of the finishing processes are performed by hand; others of various qualities of furs, and felted and finished in large part by machinery; the first are for retail trade in the cities exclusively, the second for the jobbing trade; large numbers are also made for ladies' wear, of different grades. 3. *Wool hats*. These, formerly largely produced here, are now only manufactured by a single establishment; they are usually of low price, and only used by workingmen, laborers, farmhands and employés of railways, etc., etc. 4. *Straw Hats*. These are manufactured for both sexes, and are of various kinds; some kinds are imported, as the Panama, Guayaquil, Leghorn, and many of the Swiss braids; others are made in Canada, Michigan, and in some of the southern and western states, in the form of long straw braids, which are sewed, shaped and finished here; others still are braided and entirely made here; for gentlemen's use in the city, the Canadian Mackinaw straw is the most popular, though it is imitated so perfectly that it is very difficult to distinguish them; other and cheaper braids are manufactured here; the straw hats for ladies are mostly sewn and finished in our Brooklyn factories, but the braids are from England, France, Switzerland and Germany, and considerable quantities from New England factories. 5. *Caps*. This is, strictly, an entirely different branch of business from the hat manufacture, and is carried on in a different way. Caps may be made of almost any sort of material. The cloth cap is of a great variety of patterns and materials; the military fatigue cap, the cadet's cap, the caps for conductors, messenger boys, etc., etc., are generally of new and fine material.

A lower grade are made by the Jewish clothing dealers from old cloth garments. There are also caps of canvas, of straw, of patent leather, of hair sealskin, of furs of various kinds, oftenest of seal, otter or nutria, of plush, of leather, of knit woollen goods, of linen, of hair, of fine rattan; and if there is any other material, textile, fibrous or furry, capable of being utilized for caps, it is pressed into the service.

The manufacture of head-gear, comprising so great a variety of patterns, materials and processes, is necessarily a large business, employing very many hands, and having great numbers dependent on it.

We have taken much pains to ascertain the beginnings of this industry, and by the kind assistance of Mr. James W. Peck (the oldest manufacturing hatter in New York or Brooklyn, and still maintaining an interest in the business) and of Mr. Hosea O. Pearce, late of the firm of Pearce & Hall, but now retired from business with an ample fortune, we have been able to gather the following facts:

The earliest hat manufacturers of whom we can learn were *Sarles & Company*, who were manufacturing fur and beaver hats, not far from Fulton ferry, as early as 1822, and perhaps earlier. The "Company" was Mr. Joseph Burroughs, a son-in-law of Mr. Sarles. He died in 1881, being at the time of his death more than 80 years of age.

About 1826, *Messrs. Raymond & Taylor* were engaged in making hats on Washington street, near the present approach to the Brooklyn Bridge. The partnership was dissolved before 1835, and Raymond removed to the corner of Myrtle street (not Myrtle avenue) and Division street, and continued in the business for several years. Taylor removed to Jay street, and, five years later, took in a Mr. Frost as partner, and put up a factory on Classon avenue, near Flushing, just north of the Tucker & Carter Cordage Company's present ropewalk.

In 1832, *Mr. James W. Peck*, who had been apprenticed to the hatters' trade in New York in 1819, and subsequently had worked as a journeyman for Messrs. Raymond & Taylor, commenced business for himself on Henry street, near Fulton. Mr. Robert Peck, his brother, had commenced business in 1829. Silk hats had been introduced into New York about 1825 by an English manufacturer; but though he made great efforts to start their manufacture in that city, they failed to take, and their production was given up for the time. It happened that the shop in which Mr. Peck had learned his trade in New York, was the only one where the manufacture of these silk hats had been attended with any success. After Mr. Peck went into the employ of Messrs. Raymond & Taylor, in 1827 or 1828, the firm were surprised one day by the receipt of an order for "six dozen silk hats." The New York manufacturers could not make them, and the order had been sent over to Brooklyn as a last resort. The proprietors of the factory were at their wits' end. They did not like to give up the job, but they knew nothing about silk hats. They called up their hands and asked them: Can you make silk hats? Most of them pleaded ignorance, but Mr. Peck said he thought he could; he had watched the process of the English manufacturer, and believed that he could follow it. An intelligent Irishman among the journeymen said he had seen them

made in England, and thought he could help in the matter. The two men were set at work, and in due time turned out the six dozen. This was the beginning of a large trade. The silk hat was then made on a fur body, and not on a shellacked muslin body, as now. It was very tall, the crown being sometimes 16 or 18 inches in height, and, after a time, very much bell-crowned, the top of the hat over-shadowing the brim, which was felt, and comparatively narrow. When Mr. Peck went into business for himself, he very soon began to make silk hats, and thus early achieved a fine reputation. His first styles were silk hats, made as we have described; fur hats, of thick felt, felted and bowed wholly by hand (the "former" had not then been invented); these were of two kinds: those in which the natural nap was combed out, so as to raise a short nap, which was made very smooth by combing and pressing, and those on which an artificial nap was put, of nutria or silk plush, cemented on, and giving the hat a rough appearance of raised fur, which was much admired, though now it would be regarded as horrible; and the beaver hat. After some years, Mr. Peck removed to his present location, 110 Fulton street. The business is now conducted mainly by his son, Mr. *Isaac W. Peck*. The manufactory is not large, but it is, by many years, the oldest now existing, that of Messrs. Taylor & Frost having been given up about 1860.

A hat factory was started by *Theodore Murray*, in Middagh street, about 1835, but was given up in 1845. The building is still standing, but is used for other purposes.

The felting process, as now practised by the use of the "former," and the subsequent scalding and shrinking of the felt in hot water, was not invented till 1846. Previous to that time, the fur, when picked by hand, was "bowed" or brought to its place on a conical block by the use of an elastic cord and bow, which resembled in shape a fiddler's bow. It was then scalded and shrunk by hand.

Between 1835 and 1850 a Mr. Cochran, a manufacturer of furs, caps, etc., had two factories in the vicinity of Willoughby and Raymond streets, and sold hat materials, pulled fur, etc.

In 1851, Mr. *John H. Prentice*, who had been engaged in manufacturing hats on a moderate scale in New York since 1848, purchased one of Cochran's factories, at Willoughby and Raymond streets, and went largely into the manufacture of felt hats. His business was prosperous from the first, and a lucky hit in 1855, in the production of the "Wide Awake Hat," a soft felt hat, which took everywhere, enabled him to clear in that year \$100,000 or more on that article alone, besides cleaning up all his refuse lots of fur. After the embarrassments which resulted from the great panic of 1857, he recovered himself speedily, but soon after sold out his business to his brother, *James H. Prentice*, who, a year or two after the com-

throughout all the war, found it necessary to greatly extend his factories in order to supply the demand for felt hats for the soldiers.

In 1773, Dr. Samuel Hays, of Brooklyn, Vol. III, p. 586, said: "Jas. H. Prentice's factories turn out more hats than any other single establishment in the country, and the wholesale trade, from all parts of the United States and the British provinces, are mostly supplied from the Brooklyn market. Twice a week auction trade sales of hats are held at the warehouse. From 500 to 1,000 cases, each containing from ten to six dozen hats, being sold each Saturday, according to the demand of the trade. Mr. Prentice is entire owner of three hat factories, one of which is bounded by Willoughby, Raymond, Bolivar and Navy streets, an entire block; another is on Nostrand avenue, near Myrtle, occupying six full lots; and the third at Norwalk, Conn., the latter being the smallest, and used only for the purpose of forming fur hat bodies. Capacity of the works, 1,000 dozen hats per day; and about 1,500 operators are employed. The sales average about \$3,000,000 annually."

The number of felt hats was greater than that now produced in Kings county, but the value of those now made averages more than twice as much. After several vicissitudes and changes, among which was the turning of the Nostrand avenue factory into works for the production of felt skirts, coats and other goods, Mr. Prentice finally succumbed to his successive misfortunes in 1880, and after his failure, the business in all his factories was abandoned.

But the manufacture of hats did not cease by any means in Brooklyn with his failure.

In 1853, Mr. HOSEA O. PEARCE, who had learned the business in Danbury, then as now, a great centre of the hat manufacture, came from that place, and became foreman of Mr. Prentice's factory. In 1855 Mr. Pearce established himself as a manufacturing hatter in a small brick building, still a part of the present site of the large manufactory of Pearce & Hall. The firm was at first H. O. Pearce & Co. In 1860, it was changed to Pearce & Brush; in 1866, to Pearce & Benedict, and in 1868, to Pearce & Hall. Mr. H. O. Pearce retired in 1878, and the business has been conducted since under the name of Pearce & Hall, Mr. Henry O. Pearce taking his father's place. It is now the largest felt hat manufactory in Brooklyn, and one of the largest in the United States.

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PEARL & HALL'S HAT FACTORY.

olis and her sister city, and conspicuous among these is the gentleman whose portrait is herewith presented.

Mr. Pearce was born a farmer's boy in Danbury, Conn., in 1821. His father was a man of sterling worth, but not of large means, and the support of his family of eleven children was no light task in those days of hand labor, poor markets, and scarcity of money. Consequently the lad could look forward to a life, not of ease, but of labor, and his future lay in his own hands.

He had no educational advantages better than the common schools, but he so well improved his opportunities there as to acquire a good English education.

His boyhood was passed upon the farm, but at the age of eighteen, like most young men in those days, he was apprenticed to a trade, in his case the hatters' craft.

At his majority he decided to enter mercantile life, and with a capital of only two hundred dollars, he opened a retail store in Carbondale, Pa. But his business was not prosperous, and after six months' experience, he closed it out and returned to Danbury, a sadder and a wiser man. He then commenced making hats, taking out work from the factories to be done at home. After a few months he bought a little place and erected a small work-room behind his dwelling house, where he continued to carry on the trade for half a year longer. Then ambitious to enlarge his business, he built a factory and commenced the manufacture of hats for the trade. In this he continued about ten years, increasing the production to fifty dozen per day. During this time, in his numerous journeys to New York for the purpose of disposing of his goods, he formed an acquaintance among the business men of the city. Conscious that his powers were adequate to larger undertakings than were possible in the country, he determined to remove his manufacturing interests to the vicinity of New York, which he did in 1853.

Afterwards he bought a plot of ground on Stockton street, near Nostrand avenue, in this city, and erected a brick building, 25x100 feet, where he commenced manufacturing for par-

ties in New York. In 1861 he added largely to his buildings, and opened a store in New York for the sale of his goods. The size and production of his factory were steadily increased until the buildings covered the entire lot, 100x250 feet, with a capacity of one hundred and fifty dozen per day. Mr. Pearce was familiar with the details of his business, and introduced system and method into all its branches. Skillful in forecasting the market, he bought and sold to advantage, while his careful financial management insured his abundant prosperity. It is a matter of pardonable pride with him that he always met his obligations promptly, paid his workmen at the end of the week, never failed to pay a hundred cents on the dollar, and passed with credit unimpaired through all the financial crises that occurred during his business career, although at times he had several hundred men in his employ and disbursed thousands of dollars each week.

At length Mr. Pearce determined to withdraw from active business, and to enjoy the reward of his labors free from the incessant demands of such large interests. Accordingly he retired in 1879, leaving his business to his sons and his partner, Mr. Charles Hall. Since that time his cares have been fewer, but his energetic disposition will not permit leisure to degenerate into idleness; accordingly, we find him actively superintending his investments.

Mr. Pearce is happy in his home and family. Married when he was twenty-one, his household now consists of his wife, two sons and one daughter. His church relations are with the East Congregational Society, in whose affairs he takes a deep interest.

When the present house of worship was erected a few years ago, his practical business ability was sought and utilized on the building committee, while his open hand gave a large portion of the means for its completion. His uprightness, and his good judgment have won the confidence of the community, and he has been elected trustee of various financial institutions.

Mr. Pearce is a man of strong political convictions; was first a whig, and afterwards a republican, but has never been an active politician. He was instrumental largely in shaping the legislation, which culminated in the law prohibiting the employment of convict labor in the manufacture of hats. As a citizen of Brooklyn, he is proud of her improvement, and has done much toward building up the Twenty-first ward. Here he has invested largely of his means in real estate, anxious to promote the material welfare of that portion of the city, and awaiting his return in the general advance. Here he lives in an elegant home, amid the fruits of his well-earned success.

HENRY O. PEARCE—an energetic and successful hat manufacturer of the present firm of Pearce & Hall—was born in Danbury, Conn., in 1845. He is the eldest son of Hosea O. Pearce, whose biography will be found above in these pages, and who was the founder of the large manufactory of which his son is now senior partner. Mr. Hosea O. Pearce removed to Brooklyn with his family in the spring of 1853. The son was educated at a boarding school in Danbury, and at the Collegiate and Polytechnic Institute of Brooklyn. At the age of seventeen he became a clerk in the jobbing trade in hats, and was so employed until 1868, when he entered the store of his father in New York. In the spring of 1870, he began assisting his father in the management of the business at the factory. In the autumn of that year he was allowed an interest in the business, and was admitted as a general partner in 1874. From the date of his becoming a member of the firm, he interested himself in devising ways



H. C. Purcell



Henry Pearce

for felting hats by machinery, and also for the use of shaping machines for expediting the processes of the hat manufacture. Up to this time, although many efforts had been made to use machines in felting or condensing the forms, as they came from the "former," none had proved successful; the hats being shrunk or felted by hand, and in very hot, but not boiling, water. This process was too slow for an establishment which turned out from 150 to 200 dozen hats a day. Mr. Pearce possessed a fine mechanical genius, and, aided by expert machinists, he patiently experimented, till he succeeded in producing a machine which passed the hats between rollers and plunged them in boiling water after each pressure between the rollers. The motions were necessarily very rapid, as in boiling water the felted fabric is shrunk very quickly, and the product might easily be marred. By the machine, as finally perfected under his supervision, the felting is performed with great rapidity and precision, and the product is fully equal to the hand felting, while an equal quantity can be produced by half the number of hands, while these hands can earn about 25 per cent. more than they can by hand-work. Other machines followed for diminishing the amount of hand labor without injuring the product; till now more than half the processes in felt-hat

making are performed by hand. These machines have been adopted by other manufacturers, and Mr. Pearce is now at the head of a company for manufacturing them.

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L. J. McMillan, Atty. & Counsel, who had been retained by Mr. Patterson's counsel, were engaged to go into the manufacture of hats and pencils to come to Johns Day Factory on North Main avenue, between Myrtle and Park avenues. The main building was 200 feet long and forty feet wide.

A smaller building was erected on the same premises 30x30 feet. The buildings and machinery were erected with great care, the purpose being to make it, in all respects, a model factory. The factory was put in operation in January, 1860, and had about \$15,000 of stock in the building in various stages of manufacture, when, on February 2, 1860, the boiler exploded with great force, tearing out one end of the factory and wrecking about one-third of the large building, killing nine persons and wounding eighteen more. There were 200 hands employed in the factory, but only thirty-five of them were in the building in the morning when the explosion took place. The factory was purchased by Mr. James H. Prentice & Co., and became their Nosstrand avenue factory.

Mr. Hooper, who had been a hat manufacturer in Newark, New Jersey, was employed in Pearce & Hall's establishment in 1868, but returned to Newark afterward, and, in 1873, started the present hat manufactory of *Hooper & Pryor* on Park avenue. *H. M. Silverman* commenced manufacturing hats of fine grades in Brooklyn in 1874, and the *Brooklyn Felt Hat Company* and *Dickerson & Brown* a little later, though that firm succeeded to *J. D. Bird & Co.* Messrs. *R. Dunlap & Co.*, who had been large manufacturers of silk and very fine felt hats for their own retail trade in New York city, removed their felt hat business to Brooklyn in 1880, and have since greatly enlarged it, and are now just completing a very large manufactory, where they will have their silk hats also made under the same roof. They also contemplate erecting a factory on adjacent lots for their straw hat business, which is now conducted in New York.

An industry of such importance deserves some description of its processes of manufacture. These vary materially with the different kinds of hats. The silk hat, vulgarly known as "the stovepipe hat," is made in large part of imported materials; the frame and the brim are of muslin of a peculiar manufacture, each layer stiffened with shellac, and the whole again charged with that gum. These bodies are imported, to some extent, from France, though the bodies manufactured here are equally good. The covering, of silk plush of a peculiar quality, is also imported from France. Our silk manufacturers can make a plush of equally good quality, but there has been some question as to the permanency of our American dyes. The art of putting this on without any wrinkle or drawing, and without showing the stitches is only acquired by considerable practice. Much of the binding and bands also come from France, though the American are equally good, but the japanned and skiver sweat leathers are made here.

The making-up, pressing, lining and finishing are done here. All the imported articles pay a heavy duty. It was computed three or four years ago that the duty on the imported materials going to make up a fine silk

hat was about one dollar. It is now somewhat less. Silk hats are also made, for summer wear, of the same material and in the same way, but covered with a white, or more nearly, a pearl-grey silk plush, of equally fine quality. This style, which has been out of fashion for some years, is, it is said, likely to be revived for the benefit of the ultra-fashionable. Another style of high and stiff crowned hats, formerly in great demand, is now seldom seen, except for ladies' wear—the beaver hat, as it was called, though sometimes other furs than that of the beaver were used in its manufacture. Thirty or forty years since, a beaver hat was the distinguishing mark of a well-dressed gentleman. The witty Boston poet, O. W. Holmes, says in his "Urania; a Rhymed Lesson:"

"Have a good hat; the secret of your looks
Lives with the beaver in Canadian brooks."

The fashion may come around again; but, meantime, the fur of the beaver is largely utilized in the felt hat. It may have been with some prophetic foresight of this that the poet continues, in this poem, so full of happy conceits:

"Mount the new castor; ice itself will melt;
Boots, gloves may fail; the hat is always felt."

There are silk hats of inferior qualities, made with pasteboard brim and frame; but the covering of these is not, we think, of American silk, but of the old plush removed from battered hats of better quality, and revived and ironed to give it the appearance of newness. The silk hat, in its best estate, is rather an expensive luxury, its retail price ranging from \$6 to \$10.

2. *Felt Hats.* As we have already stated, there are two distinct methods of making these. Machinery is used to a considerable extent in both, but one style is known as "hand-made," and the other as machine-made. The preliminary processes do not differ in the two. The fur, whether coney, hair, beaver, nutria, muskrat, mink, otter, seal or whatever it may be, comes to the factory in masses, which contain many lumps or knots, and, not seldom, considerable dirt. These masses are subjected at once to the picker and blower—technically called the "devil"—and, by this powerful and complicated machine, are torn into single hairs and blown through perforated cylinders till they come out clean, free from knots, and only the finest and softest fibres pass into the loose bat at the end, where they are coiled up in tubs. These tubs are next sent to the weighing room, where the quantity required for each hat is weighed and put into a compartment of a box holding the sufficient amount for a dozen hats. As many of these boxes are filled as there are dozens of hats to be made in a day. In the larger factories this may require 150 to 175 boxes. These are now ready to be put into the "former." The "former," first suggested by Thomas Blanchard of Boston, assumed its present form in 1846, in the invention of Mr. Henry A.

Wells of New York, which was still further improved by Mr. Henry A. Burr, Mr. Yule and others.

To understand the office of the *former* (which is now usually of Yule's latest improved pattern), we must remember that fur, like some descriptions of wool (the felting wools), and, unlike hair, possesses the felting property, *i. e.*, that each fibre of fur has little hooks, beards, notches or scales, which, under favorable circumstances, interlock with the other fibres, and produce the substance called *felt*, a substance which can be made as dense and firm as woven cloth. It was discovered, about forty years ago, that if the fur or felting wool was exposed to a rapidly revolving perforated cone, through which a strong current of air was passing, the fur would be attracted to the surface, and felted evenly and uniformly. This felt, of course, took the form of the cone, and when the prescribed amount of fur was thus deposited on the cone, a cloth was thrown around it, a cap of the same metal was placed over the cone, and the whole lifted off and plunged into a bath of water, which rendered it more dense, and another cone substituted for it over the fan, which repeated the process for another hat. After its plunge bath, the cone was lifted out, its cap taken off, and the embryo hat, a cone-shaped rag, stripped off, to undergo a further felting process. Here the two methods of hat-making begin to diverge; the hand-made hats are plunged into water as hot as can be borne by the operator, wrung out, twisted and plunged again, and the process repeated, until the hats—three or six of them are handled at once—are shrunk to the requisite size, and are rendered uniform in density. This process is slow, and hard on the hands of the operator. Without careful supervision or inspection, there is a liability to imperfect work; but with it, the felting is very perfect, and the hats remarkably free from defects. By the machine method, the hats—half a dozen in a bunch—are rolled up, plunged into boiling water, seized by the operator, passed between rollers in different directions, thrown out, rolled in a different way, again plunged and passed between the rollers, the intense heat of the water insuring their shrinking and felting much more rapidly than by the hand method. To the casual observer, this method appears more certain of producing the desired results than the hand method; but experts say that there are liabilities to imperfect felting in both. When thus completely felted, the hats are placed upon stretchers to be dried, and then, by the machine method, they are shaped by machines. By the hand process the shaping is deferred till later. The hats are next subjected to the stiffening or shellacking processes. There are three of these: one by water charged with gum, another by the use of a solution of gum shellac, applied by rubbing and rolling, till the whole hat is saturated with it; while a third, which is called the wine-stiff, consists of the application of alcoholic vapor, some fine gum or gum resin being dissolved in it in small

quantity. Generally, only the very dense and lightest hats are subjected to the wine-stiff, but the water and shellac stiffenings have been so much improved, that they are used in many of the descriptions. After the stiffening, when again dry, the hat is ready to be dyed, if it is to receive any coloring. Here, again, the two methods slightly diverge. In the hand method, the dyeing is done by hand in very an outer of comparatively small size, and the color is made uniform in the hat by sundry wringings and rubbings. By the machine method the hats are plunged, in large numbers, into immense vats, where they are agitated and stirred around in the boiling dyes, and finally thrown up by a false bottom, when they are tossed out in half dozens by the operatives. The colors employed are various, and, in the fancy colors, the aniline dyes are much used. While the hat is still moist, it is taken to the blocking room, where, by the hand method, the crown is shaped on wooden or metallic blocks, and thoroughly pressed in moulds, while the brim is pressed flat. By the machine method the same results are attained by machines which press the hat into shape very rapidly. When transferred to the dyeing room, the hats blocked by hand are subjected to a heat of 110° F., and then sent to the shaping and pressing rooms. The machine hats are cooled off with cold water on the blocking machines, and in the shaping rooms a slight nap is first raised, the superficial shellac being discharged; the curl is given to the brim, according to the latest style. In the hats with flexible brims, the brim is wired, and the hat is ironed, and is ready for the final finishing, in which it is bound, lined, leathered, tipped and banded. In the machine process, the tips are made by a machine, but the rest of the work is done by hand. At every stage the hats are carefully inspected, and if the least defect or imperfection is discovered, the hat is rejected, and is sold, generally untrimmed, as a second quality. The inspection in the hand-made hats is of the severest kind, and the rejected hats form an important item. These are generally sold to retail dealers at a very low price, and finished by them, and usually have their names on the tips.

When completed, the hats are packed in dozens, each in its own box, and sent to the warehouses for the retailers to take. There are two great sorts of hats. The soft felt is made in considerable quantities, but is not so popular now as some years since. The principal difference in its manufacture is that it has but a small infusion of shellac, is not shaped with so much care, is not trimmed so closely, and the brim is trimmed but little, and is not curled, and sometimes is not bound.

The straw hats are of two sorts—gentlemen's and ladies'. They are, as we have said, made in the braid, which are either made at the factories, or sent from some distant country home-made, and worn by women and children at their homes. When sewed, they are difficult to get good in the shape of some.

ed to be white, they are partially or wholly bleached, pressed and trimmed. The retail prices range from 75 cents to \$5 or \$6 for American goods, and sometimes reach much higher prices for Panama, Guayaquils or other foreign products, when these happen to be in fashion.

We can give no detailed account of the wool hat manufacture, nor of the numberless forms and styles of caps. The fashions and the processes for making the latter, change from month to month, except in the military and naval styles, and even these have occasional, though less frequent, modifications.

The principal hat manufacturers in Kings county are: In silk hats, *Robert Dunlap & Co.*, who have a very large factory on Nostrand avenue, near Park; *James W. Peck & Son*, Fulton street; *Messrs. Balch, Price & Co.*, and perhaps one or two smaller houses. All the silk hats made here are for the retail trade, and, we believe, exclusively for the retail trade of the manufacturers themselves. *Messrs. Dunlap & Co.* make from 85,000 to 100,000 silk hats, which are sold in their retail stores in New York, Philadelphia, Baltimore and Chicago. The hats have a high reputation.

In felt hats, the leading manufacturers are *Pearce & Hall*, whose factory is in Stockton street, and who turn out from 125 dozen to 150 dozen daily, and, in the busy season, with their factories elsewhere, can produce 200 dozen a day; they use the machine processes, and sell their hats to jobbers all over the country and abroad; *Hooper & Pryor*, on Ellery street, near Nostrand avenue, whose production is almost as large as that of the preceding house, and of nearly the same qualities; they also sell to the jobbing trade; *The Brooklyn Felt Hat Co.*, 301 Park avenue, whose specialty is ladies' felt hats, and whose large factory has recently been burned; they manufactured, when full, about 100 dozen ladies' hats a day, and sold to the jobbing trade; *R. Dunlap & Co.*, also have a large factory on Nostrand avenue, and make about 48 dozen felt hats a day of the best quality and highest price, by the hand processes, which are sold exclusively in their own retail stores; *H. M. Silverman & Co.*, of 100 Grand avenue, near Myrtle, who makes about 36 dozen felt hats daily, of the best quality, by the hand process; *Dickerson & Brown*, 44 Kosciuszko street, who turn out about 24 dozen hats daily, of the best quality, and by the hand process. The last two sell, we believe, mainly to the city retail trade.

So far as we are aware, these are the only houses engaged in the manufacture of felt hats. There are others who buy unfinished hats, and finish them up in such styles as they desire, putting in their own tips and trimmings; but these are not manufacturers. Within the last two or three years several manufacturers have failed. The amount of capital invested in the felt hat manufacture is somewhat more than a million dollars; the number of hats turned out, when running

full, somewhat more than 2,200,000; the number of hands employed over 1,600; the amount of wages paid about \$1,200,000; the annual product somewhat more than \$2,700,000.

In straw hats, the principal manufacturers are: *The Novelty Straw Works* (Charles M. Evarts), Park avenue, City Hall, a very large establishment, employing 350 hands or more, and turning out immense numbers of hats, though generally of the cheaper styles; this establishment was burned in September, 1883; *Balch, Price & Co.*, who import and purchase from New England and Canada very choice braids, and make them up in their own works; their straw hats are of high grade, but their manufacture limited; *Robert Dunlap & Co.* have a very large straw hat factory in New York, which they will remove to Brooklyn early in the next year (1884).

There are also four or five other straw hat manufacturers on a small scale, three of them in South Brooklyn and two in Greenpoint, but we have been unable to obtain their statistics.

There are several houses engaged in furnishing materials for hatters, fur of the coney, hare, rabbit, nutria, mink, muskrat, etc., etc.; the largest of these is the house of *Harper, Hollingsworth & Derby*, in McKibbin street, who furnish large amounts of these furs to the hat manufacturers.

Of the one wool hat factory reported in the census of 1880, as existing in Brooklyn, we have no knowledge, and have been unable to learn whether it is still in existence.

The cap manufacture is carried on here to a considerable extent, but there are no means of arriving at any separate statistics of it.

SUBSECTION I.—Furs and the Fur Manufacture.

Closely allied to the manufacture of hats and other head gear, is that of the preparation and adaptation of furs to the various purposes of human wearing apparel. This trade, in all its branches—capture of the animals, and importing, exporting, dyeing and re-importing their skins and preparing them for wear—is a very large industry.

In Kings county we have no great importers or manufacturers to compare with the Gunthers or some of the foreign houses in the fur trade in New York city, but our fur manufacturers are, nevertheless, enterprising as well as industrious, and they have built up a good and substantial business.

All kinds of furs are handled by our Brooklyn furriers, and they are made up in all the varieties and forms we have indicated. The census reported 22 manufacturers of dressed furs in Brooklyn, having \$416,265 capital, employing 473 hands, paying out \$137,374 wages, using \$565,154 of material, and producing annually goods of the value of \$830,804. This was probably, in 1880, a nearer approximation to the

actual production of manufactured furs than most of the statistics of Brooklyn industries reported by the census, but it represents it very imperfectly in 1884. There are now 28 houses in the trade, all but one of them engaged in it exclusively, and selling mostly at wholesale; the exception, Messrs. *Baleh, Price & Co.*, being also manufacturers of and dealers in hats, caps, and straw goods, and manufacturing their furs almost entirely for their own large retail trade. The largest manufacturer of furs here is, we think, Mr. *James Cassidy*; and after him come Messrs. *O. & A. Comeau & Co.*; *Franz O. Linder*; *J. Pluhwoll's Sons*; *William Stillbragen*; *Merck & Auer*; *Rogers & Lowery*; *Julius Weinberg*; *William Hillman*; *Hitchcock, Dermody & Co.*; *Joseph D. Williams*, etc., etc. The number of hands employed in the business exceeds 550, and the production is about \$1,150,000, and would be much greater, but for the decided fall in the prices of furs within the past three years—a fall of not less than fifty per cent. in sealskins and of somewhat less in otter. These reductions in price have materially interfered with the profits of the business, which a few years ago were very liberal.

SECTION XVIII.

Drugs and Chemicals.

This title is a comprehensive one, and the amount of manufacturing under it is very large. It includes the manufacture of what are known as the "commercial acids," viz., sulphuric, nitric and muriatic or hydrochloric, in all their various degrees of strength, the production of other chemicals, such as alum, blue vitriol (sulphate of copper), green vitriol or copperas (sulphate of iron), white vitriol (sulphate of zinc), aqua ammonia, muriate of tin, tin crystals, and incidentally sulphate of soda (Glauber's salts) and sulphate of lime (plaster of Paris), and other commercial preparations, which can be manufactured economically by artificial processes; the production of ammonia and other nitrogenous compounds for refrigerating, fertilizing, medicinal and economical purposes; the productions of carbonic acid gas and some of the carbonates, and the elimination and utilization of mineral, metallic or earthy substances from the crude materials with which these acids are combined; the whole range of medical chemistry, and the production and compounding of the preparations of the pharmacopœia, whether vegetable, animal or mineral, completely pure and in commercial quantities. Also, the combination and preparation of new remedies; the compounding on the large scale of household and other compounds required in domestic economy, such as flavoring essences, cream of tartar, tartaric acid, bicarbonate of soda, sal soda, carbonate and muriate of ammonia, baking powders, compressed yeast, bleaching powders, etc., etc.; the preparation and putting up for sale of all artificial mineral waters;

the subliming of sulphur, the preparation of fertilizers and chemical manures.

In addition to the manufacture of this great variety of chemicals and drugs, many of the large manufacturers employ chemists, and fit up laboratories for them in their establishments. This is the case with all the larger sugar refineries, with the oil refiners, with the manufacturers of dry ice, and, except the larger paint houses generally, the manufacturers of cream of tartar and baking powders, etc., etc.

The manufacture of drugs and chemicals is not a new business here. Several of the largest houses date from 1850 or earlier. Among them such houses as *Martin Kallbach*, *E. R. Squibb*, *H. J. Baker & Co.*, *Frederick Scholer*, *Donald H. Gray*, &c. We have not the figures for 1860 in Brooklyn, but in 1870 there were 15 establishments, employing 383 hands; having a capital of \$843,000; paying \$190,615 wages; using \$775,138 of material; and producing drugs and chemicals of the value of \$1,799,357. The manufacturing statistics of 1870 were so notoriously incorrect, especially in the cities, that this was undoubtedly an understatement.

In 1880, there were thirty establishments, employing a capital of \$3,764,550; employing 1,177 hands when full, and an average of 1,037 through the year; paying out \$540,659 in wages; using raw material of the value of \$3,706,449; and producing goods valued at \$5,309,396. These are Mr. Frothingham's figures; those of the compendium of the tenth census differ considerably from them, increasing the number of establishments to thirty-eight, and diminishing the capital employed to \$3,449,650; the hands employed to 1,104 when full, with an average of 961; reducing the wages paid to \$473,353; the raw material used to \$3,446,549; and the annual product to \$4,900,338. We hardly need to say that Mr. Frothingham's figures are the most probable. But large as was the amount in 1880, it has materially increased since. Four cream of tartar works, two, if not three, sulphuric acid works, two sulphur refineries, one or two very large manufactories of porous or other plasters, etc., etc., have been added since 1880, and have nearly doubled the production. The great drug-preparing houses of *E. R. Squibb & Co.* and *Frederick Scholer & Co.* have also largely increased their facilities for manufacturing, and the high reputation of their preparations is constantly enlarging the demand for them. It is to be noticed, also, that the great increase of population and of manufactures creates a constantly-increasing demand for many of the chemicals required either for manufacturing or household use.

The production of drugs and chemicals in Kings county in 1880 was about forty per cent. greater than that of New York County (\$8,972,100) and is now there approximating to that of Philadelphia (\$11,844,000), though the latter has hitherto led the country in these manufactures.

Let us now consider for a little space the different classes of chemical manufacture which are conducted here. Beginning with the production of the commercial acids and their compounds, we find four or five houses engaged in their manufacture. The largest of these is that of *Martin Kalbfleisch's Sons*, occupying about twenty acres on Newtown Creek, Brooklyn side. This house was first established in 1829, and now has five large factories in Brooklyn and extensive works at Bayonne, N. J., and Buffalo, N. Y.

The production of sulphuric acid, or oil of vitriol (the two terms not being exactly synonymous commercially, sulphuric acid being the acid which does not exceed 58° or 60° in strength, while oil of vitriol must come up to 66° or above), is the basis of all their other manufactures of chemicals.

They produce their sulphuric acid by burning sulphur under such conditions that its vapor unites with oxygen from the air and water in the receiving chambers, in the proportion of one part of sulphur to three parts of oxygen. A smaller proportion of oxygen gives sulphurous instead of sulphuric acid.

The sulphur used in these factories comes mostly from Sicily, from whence it is brought at low freight or as ballast. The sulphur of Utah, Nevada and California is just as good, but the expense of its transportation is too great. About 20 tons a day are used in all the factories. The sulphur furnace has an iron bed-plate instead of furnace bars, and the furnace fires must be lighted long enough to heat the bed-plate before the sulphur is put on it. The charge of sulphur is from 60 to 75 pounds, and it requires about three hours to burn off. In practice, the oxygen is added in the leaden chambers where the sulphur vapors are condensed, either in the shape of nitrate of soda or nitric acid.

We cannot give in detail the processes, which differ in different establishments, by which the sulphuric and nitric acids are produced and those by which they are concentrated. Steam plays an important part in all the operations.

Nitric acid and *aqua fortis* are made by heating commercial nitrate of soda with sulphuric acid; muriatic acid, by the decomposition of common salt by sulphuric acid; alum, by burning or calcining alum stone to expel a portion of the sulphurous and sulphuric acid, and then lixiviating the mass into a paste with hot water, drawing off, concentrating and crystallizing.

Blue vitriol (sulphate of copper) is produced by heating either metallic copper or the richer copper ores with concentrated sulphuric acid and crystallizing; white vitriol (sulphate of zinc), by dissolving either metallic zinc or its oxide or carbonate, or the sulphide (blende) in dilute sulphuric acid and evaporating. If the blende is used, it must be redissolved in water and purified.

Aqua ammonia is made in a large iron still, by mixing equal weight of sal ammoniac or sulphate of ammo-

nium and freshly burned lime with four times their weight of water, and applying heat till the ammonia gas is driven off into the bottom of a vessel two-thirds full of water. The water absorbs the ammonia. The gas becomes liquid at from 40° to 58° below zero Fahrenheit.

Muriate of tin and tin crystals are produced by dissolving granulated tin in muriatic acid and evaporating to crystallization. The aqueous solution known as "muriate of tin," requires the addition of muriatic or tartaric acid, or it throws down a basic deposit.

The immense demand for earthenware vessels and pipes in this business, and the great losses by breakage, have led the house to establish a large pottery of their own, which turns out great quantities of these wares. They employ in their Brooklyn works about 750 men, and produce, of all the chemicals, over \$2,500,000 per annum.

The *Pratt Manufacturing Company*, which manufactures the sulphuric acid and other chemicals used in the refining of petroleum, is probably the next largest producer of these commercial acids. They produce their sulphuric acid from copper pyrites (sulphide of copper), mostly imported from Spain, the residual copper ore being sold to the smelters. Their production of sulphuric acid is about \$600,000 per year, and the caustic soda used in the refining of petroleum is also imported by them, and amounts to perhaps \$20,000 more.

There are three or four other manufacturers of commercial acids, etc., in Brooklyn, of which the two largest are *Pfizer & Co.* of Bartlett street, and *Charles Kraft* of Flushing avenue. The Phenix Company is also large. The total production of this class of chemicals is not far from \$4,200,000, and the number of hands employed about 1,350. Some of these houses produce copperas (sulphate of iron), Glauber's salts (sulphate of soda), artificial gypsum (sulphate of lime), and some of the chlorides, either incidentally or as commercial products.

The sublimation of sulphur is an allied industry. This is carried on extensively by *Mr. Frederick Scholes*, of 152 Kent avenue, whose product is sold wholly by the house of *Battelle & Renwick*, 163 Front street, N. Y., and by *Mr. Daniel H. Gray*, whose factory is at 25 Ninth street, and his warehouse at 115 Maiden lane. These gentlemen, like Messrs. Kalbfleisch, obtain the crude brimstone or sulphur from Sicily, and conduct their processes so carefully that the sulphurous vapors do not escape, so as to annoy the inhabitants of the neighborhood. They employ about 45 hands, and their annual product, in round numbers, is about \$350,000.

SUBSECTION I.—*Medical Chemists.*

Next in importance to the manufacturers of commercial acids, and hardly second to them in the extent o

their business, are the manufacturers and compounders of medical drugs—the medical chemists. There are four or five of these, but only two who have attained a very high reputation abroad for the excellence of their preparations.

EDWARD R. SQUIBB, M. D., has been engaged in his present vocation as an importer, manufacturer and compounder of drugs for wholesale purposes only, for more than thirty years, and no manufacturer of drugs in the country has so high a reputation for thorough knowledge, strict integrity, careful manipulation, and the absolute purity and reliableness of his preparations. The physician who prescribes his preparations, knows that he can obtain from them all the beneficial results which the drug, in that form, can be expected to produce; while those of his compounds, which are sold in large quantities, are equally reliable. During the war, when a pure article of chloroform was indispensable for the surgeons, the medical purveyors of the army could find none at all comparable, for purity and excellence, to that of Dr. Squibb. This was true also of his other preparations. He manufactures no secret or patent medicines; and whatever compounds his medical skill and knowledge have led him to prepare, to facilitate the physician's labors, are always put up with the formulas in full.

M. C. Edmond Fougere has followed a somewhat different line of business from Dr. Squibb, being more largely an importer of the best French preparations, than a manufacturer, though his manufactures have been of a very creditable character. We believe he was the first to introduce the gelatine capsules now so generally used, in all forms and of all sizes, for the administration of bitter or nauseous medicines. We are unable to give the exact details of the annual production (part of it importation) of these two great drug houses, but it is certainly not less than \$600,000. The number of hands varies very greatly.

Dr. James S. Hawley, who has made a specialty of the manufacture of pepsin and its compounds, and of some other medicines; Henry Jackson & Son; George J. Jolensen; Edward D. Kendall; H. Endeman; Godfrey Osann and Franz Roessler, all of them practical chemists, and engaged in the production of some specialties, also come under this class.

SUBSECTION II.—*Patent Medicines.*

Following these, we may also name some of the few manufacturers of patent medicines and medicinal preparations, whose manufactories are in Brooklyn or Kings county. The largest of these, the *Graefenberg Company*, now owned and managed solely by Col. Charles E. Bridge, whose portrait and biography we give, was originally a German house, and held some valuable patents. Under its present proprietor its business has been greatly extended, and it is now very large and profitable.

COL. CHARLES E. BRIDGE is descended from a German family. The first of his ancestors in America was the Dutch farmer of Dutch county, England, one of the pilgrims who landed from the Mayflower in 1620. Bridge's great-grandfather, one of his descendants, who was Colonel Bridge's great-grandfather, married Molly Fry, an Indian woman of the purest type, most of whose descendants are distinguished by dark faces and black or dark brown hair, the latter being straight. The subject's maternal grandfather has four sons in France. Webster, America's well-known congressman and orator, who was an uncle of another uncle, James Fisher Bridge, father of Col. Charles E. Bridge, was born in Beverly, Mass., in 1802. While yet a young man he went to sea, his adventures and hardships leading him to seek a life of more danger and less monotony than that of his landman comrades. In 1816, at the age of twenty-four, he became a resident of Brooklyn, and soon found employment in the old proprietary medicine house of the *Graefenberg Company*, then located on Broadway. His position was, at first, if not a menial, one. He began literally at the bottom of the ladder. If he had not been profoundly loyal, industrious and saving, he could scarcely have retained his foothold on the lower round at the beggarly salary he received. His attention to the duties entrusted to him was such as to merit him to the good opinion of his employers, and gradually he was advanced to more responsible and lucrative positions. Meanwhile he attended night college, acquiring the education which he felt to be essential to his success in life, read medicine, attended lectures, and in time received a diploma as a physician. Having no taste for a general practice, he devoted his knowledge to the benefit of the *Graefenberg Co.*, in whose affairs he was more and more a power year after year, till, in 1863, he was enabled to purchase enough of its stock to insure him a position as its general manager. The enterprise flourished more remarkably than ever before, and six years later Mr. Bridge was the sole owner of its stock, which made him proprietor of an extensive business many years established. He died in 1871, and all of the rights, titles and privileges of the *Graefenberg Company* passed to the ownership of the present proprietor, Col. Charles E. Bridge. Mr. Bridge was married in 1852 to Miss Augusta J. Edmunds, of Plymouth, New Hampshire, and Col. Bridge was born in Brooklyn, April 25th, 1836. A daughter was born to them also.

Charles E. Bridge attended private schools in Brooklyn until he was eleven years old, when he entered the Brooklyn Collegiate and Polytechnic Institute, passed through all its grades, and graduated therefrom in 1855. Later he attended a German school to obtain a knowledge of the German language, which is necessary in the conduct of the extensive correspondence of the *Graefenberg Company* with dealers in the German states. At the death of his father he succeeded him in business, having previously mastered all of its details by several years' association with him in the office; and, under his management, the enterprise has steadily grown, and more than retained its status as one of the oldest, best-established and most reliable institutions of the kind in the world. In 1873, he married Miss Margaret P. St. John of New York city. Their son, now ten years of age, was the last of his name in this branch of the family, should he die without issue. If the boy is to be spared to him, it is the hope of Col. Bridge that he may become his successor as the proprietor of the *Graefenberg Company*, and, in time, hand the business down to his descendants, thus perpetuating its ownership in the family.

Early in life Col. Bridge developed a liking for military affairs, and, in 1860, then only sixteen years old, he joined

A Company of the 23d Regiment. He filled various warrant positions, and was officially connected with the staff of the colonel in command, until he left the regiment in 1880 to accept an appointment on the 11th Brigade Staff, which he held till January 1st, 1883, when he was appointed to a place on the staff of Governor Cleveland, with the rank of colonel. His duties as an officer on the staff necessitated his studying closely the various systems of signaling in use. He conceived the idea that the United States army system could easily be employed, by means of steam whistles, to communications at sea, rendering it possible to signal the course, the name of the vessel and the line to which it might belong, the captain's name, and other facts of a similar nature, besides locating icebergs or wrecks, or indicating distress of any kind, such as mutiny, shortage of water, leaks, sickness, &c. He thought, too, that a regular signal telegraphy might be adopted for the use of passengers, and for the apprehension of criminals on board of vessels and *en route* for foreign shores. He claimed no special originality in the scheme, for it contemplated only the application of an old and tried system in a new direction; but he trusted that to give those most interested the results of study and experiments in this mode of signaling would lead to benefit to the commercial traveling community, not only of America, but throughout the world; and he neither sought to secure the system to himself, by patent or otherwise, nor to obtain any pecuniary benefit therefrom. His experiments met the approval of Commodore George H. Cooper, U. S. N., commandant of the Brooklyn Navy Yard; General Edward L. Molineux, commandant 11th Brigade, N. G., and others, who have conceded the advantages to be derived from his proposed application, and encouraged him to place his system before the public, for it is so simple and easy of comprehension, that its manifest utility must, before many years, bring it into general use.

Col. Bridge has been a life-long resident of Brooklyn, and will, doubtless, reside there until his death. Though a young man, his interests are such that he has the prosperity and progress of the city at heart, and all measures toward their advancement meet with his hearty co-operation and liberal support.

The *Pond's Extract Company* manufacture another preparation which has a great reputation and an extensive sale. The production of these two establishments is said to be between \$300,000 and \$350,000. The other patent medicine houses, of which there are a dozen or more, do a very moderate business. One of them, the *Damonia Magnetic Mineral Company*, is a new comer, and bases its claims to public patronage on its preparations of an earth or ore of iron, and, possibly, chrome, said to be magnetic, and found in Texas. It is advertising largely, but we know not with what success. Other professed magnetic remedies, like the *Wilsomia* and *Victoria Clothing*, have had their day, and have ceased to attract public attention.

SUBSECTION III.—*Mineral Waters.*

The preparation of artificial mineral waters, carbonated waters, &c., is becoming a large and very profitable business. Nearly all the mineral waters which have a high reputation have been carefully analysed, and the formula thus obtained has been so successfully imitated, that the artificial waters are recommended by

the most eminent physicians as equal or preferable to the genuine. There are now 29 or 30 of these manufacturers of artificial mineral waters in Kings county, several of them doing a large business. The cost of plant is not very heavy, the principal items being a good artesian well of very pure water and a good supply of siphon bottles. The formula are simple, and the production of carbonic acid gas, pure, and of sufficient quantity to enable the manufacturers to charge the siphons, already filled with the required solutions, is all that is necessary, in the hands of skilled workmen, to make the business successful. The sales are largely to druggists, physicians, and, to some extent, to private customers. *Hellman, Müller & Co., Bach & Nostrand, Henry Segelka, Frederick Feltmann, H. & C. Batterman, Schneider & Bro., Smith & Layton, Hess & Palmer, Knobel & Pope, Sweeney & Bro. and Lawrence Maxwell*, are, we believe, the largest of these manufacturers. The entire business is estimated at about \$400,000.

SUBSECTION IV.—*Mineral Paints, Roofing Materials, and Other Mineral Preparations Produced by Chemical Processes.*

Most of these houses have trade secrets which they believe to be valuable, and hence repel all inquiries in regard to the character and extent of their business. In general, little can be learned about them, except that they are engaged in some chemical work. There are one or two roofing companies, the proprietors of which are somewhat more communicative. Among these are H. W. Johns and Gridley & Co. of the *Phoenix Chemical Works*, at the foot of 39th street. Their specialty is a chemically compounded cement for roofing purposes, and perhaps also for tiling. Of the *Jordan Iron and Chemical Company*, the *Manhattan Chemical Company*, the *Charles T. White Company*, and the *National Chemical Works*, we have only been able to learn that they belonged to this class, and that several of them were doing a large business.

Of course, any estimate in regard to the amount of this business can be only a guess, and may come wide of the mark. We prefer an under-estimate to an excessive one, and are sure that in estimating their entire production, and that of others who may belong to this class, at \$500,000, we are considerably within the mark.

SUBSECTION V.—*Cream of Tartar and Tartaric Acid.—Baking Powders.*

Our knowledge of these chemical manufactures is more thorough and complete than of those of the preceding subsection. By the courtesy of the proprietors we were permitted to inspect all the processes.

Though cream of tartar is a necessary ingredient of a good baking powder, and a very large proportion of that which is manufactured here is consumed by baking powder companies; yet it is used for many other

purposes, in domestic economy, in medicine, and in the arts. Formerly it was largely imported, but the importation has now ceased, and only the crude argols, from which both cream of tartar and tartaric acid are manufactured, appears among the imports. We do not know the number of cream of tartar companies in the United States, but the production of Brooklyn is very nearly, if not quite, one-half of all that is made in the country, yet it is all at present consumed here.

In tracing the processes which lead to the production of a complete baking powder, we find it necessary to begin at the beginning. The principal constituents of all baking powders are bitartrate of potassa, generally known as cream of tartar, and bi-carbonate of soda, the cooking soda of the shops. There is in some of them also a very small percentage of sesqui-carbonate of ammonia, and in those which are of inferior quality, a quarter or less percentage of alum, tartrate of lime, tartaric acid, &c.; but the two ingredients, named at first, are the most important. It is of the highest consequence, that both the cream of tartar and the bi-carbonate of soda should be, as nearly as possible, absolutely pure. Commercial cream of tartar has been considered in the past as sufficiently pure for almost any use, when it consisted of 95 per cent. pure bi-tartrate of potassa, and 5 per cent. of tartrate of lime, or some other substance inert, or of no material importance. This is not the standard to be reached by the best manufacturers. The New York Tartar Co. now makes a cream of tartar $99\frac{4}{10}$ to $99\frac{7}{10}$ pure, and the productions of the other Brooklyn companies is brought to the same standard. The bi-carbonate of soda is brought up to an equal degree of purity.

How is cream of tartar made? The crude tartar is called *argols*, and is imported from France and Italy, and in small quantities also from Germany, England and Austria.

The whole quantity imported last year was 18,320,366 pounds, and the custom house value, \$3,013,376, or about 16 cents per pound. *Argols* are the deposits of crude tartar in wine barrels, and consist of tartaric acid, tartrates of lime and potassa, with other impurities, and a considerable percentage of dirt. As delivered at the tartar factory, they are dirty, greyish, black-looking masses, partly in powder, partly in small, rather tough lumps. They are first powdered and then boiled in immense boilers, and the alcohol and other volatile impurities expelled (this is the part of the process to which exception has been taken, from its alleged malodorous smells, but these, though never so bad as represented, are now almost entirely removed by a condensing process). When boiled it is filtered through bone-black, and then evaporated and crystallized. It is chemically impure, though the crystals are white and clear. It is next redissolved and the tartrate of lime separated, and it is tested for any other impurities, which, if they are found, are removed, and it

is again crystallized, and is ready for use, as we shall see presently.

The tartrate of lime is treated with sulphuric acid, and the tartaric acid is separated, a sulphate of lime (gypsum or plaster of Paris) being formed. The tartaric acid being first purified, is crystallized and is ready for market. There is a considerable demand for it for a variety of uses.

But we will now follow the cream of tartar or bi-tartrate of potassa. There is, as we have said, a large demand for this for culinary, medical, chemical, and technological purposes, but the Brooklyn tartar companies find an instant market for all their products in the *Royal Baking Powder Company*, and the product was three times what it now is (as it soon will be), it would all be absorbed in that rapidly growing industry. The crystallized cream of tartar is hoisted into the upper stories of the factory, where it is ground as fine as the finest flour and bolted. It is then tested for impurity again, and is ready for the next step.

Meanwhile, the soda has been ground also, its purity similarly tested, and the two are emptied into the mixer, a very ingeniously constructed machine, which, by its various motions, thoroughly combines the two powders, and so incorporates them with each other that there is no possibility of an excess of one or the other in any package, large or small, of the compound. When thus completely mixed, it is again tested, and by an automatic movement, each barrel filled with it is lowered to the floor below, and another set in its place. From these barrels it is packed in boxes of different sizes, each boxful being weighed to secure the exact weight, the covers put on the box labelled, and one, two or four dozen packed in a wooden box, also labelled. The demand for this baking powder is enormous. Forty tons or more are shipped daily.

But the Royal Baking Powder Company have also other lines of business. They have gained a great reputation for their flavoring extracts—lemon, orange, vanilla, rose, ginger, etc.—which are of undoubted purity and full strength, and of which many thousand gross are sold every year. The two establishments, which are really under the same control, employ about 500 hands, and on the completion of the new tartar factory, will be able to produce goods to the value of about \$4,000,000 annually.

There are three other cream of tartar and tartaric acid factories in Kings county beside the *New York Tartar Company*, but their cream of tartar product is now absorbed by the Royal Baking Powder Company. The tartaric acid produced by all the companies is sold elsewhere, the chemical works of Martin Kalbfleisch's Sons and others using it, as do the color manufacturers in the preparation of colors and mordants. Their production of this acid does not probably exceed \$100,000. There is now no other baking powder company in

Kings county except the Royal, two or three others having removed or given up the business. The census of 1880 reported at that time 110 establishments manufacturing baking powders in the United States, with an annual product of \$4,760,598. In the three and a half years which have elapsed, a considerable number of these have failed or relinquished the business, but the Brooklyn company has constantly grown, partly by the acknowledged excellence of its products and partly by the most energetic and thorough advertising, in all ways and by all methods, ever attempted in this or any other country. It now produces more than one half of all the baking powder manufactured in the United States.

Let us now sum up the products of the various subdivisions of these chemical manufactures, reserving for a separate section one division, that of *Fertilizers and Glue*. We find, then, in the six subsections we have described, an annual product of about \$10,300,000 and the employment of from 2,800 to 3,300 hands.

SECTION XIX.

Fertilizers—Glue.

The manufacturers of *fertilizers* is a somewhat important interest in Kings county for several reasons. There are but three or four houses directly engaged in it, but the product is large. The statistics of the census of 1880 were: Capital, \$545,000; hands employed, 89, of whom 84 were men; amount of wages paid, \$51,000; cost of material, \$1,063,867; annual product, \$1,252,756. These figures were below the present rate of production, which probably now exceeds \$1,500,000, but they were more nearly correct than most of the statements of Brooklyn industries.

But the industry is of special interest from its connection with other industries and mercantile enterprises. It has direct connection with the manufacturing chemists, from whom the acids, ammonia and other chemicals used in the transformation of different substances into effective fertilizers are obtained; with the slaughter-houses, which furnish much of the offal which is transformed; with the scavengers, whose contributions of dead animals, bones, etc., form an important constituent of the fertilizers; with the importers of nitrate of soda, sulphate and muriate of potassa, guano, phosphates, etc.; with the exporters of bone-black, superphosphates, etc.; with the Menhaden factories, from whom they obtain a kind of guano, after the oil is taken from the fish; with the glue-makers, from whom they obtain bones and much nitrogenous matter; with the sugar refiners, who furnish them with their spent bone-black and the residuum of waste after its re-purification, and to whom they sell considerable quantities of refined bone-black produced by some of their processes; and with the miners and quarriers of phosphatic rock in South Carolina, from whom they obtain very

considerable quantities of these valuable constituents of fertilizers.

The demand for fertilizers is very large, and is constantly increasing. Even the more intelligent of the farmers, on the comparatively new lands of the West, are beginning to understand the advantage of restoring to the soil the constituents so largely taken from it, and are, by the use of fertilizers regaining the yield of wheat, corn and other cereals, which was so rapidly falling off. The first attempt at manufacturing fertilizers on a large scale in Kings county was made in 1850, on Crow Hill, by Swanmitel, Pieper & Co., who had a fat-rendering establishment, and ground bone to some extent, for export to England, for a year or two.

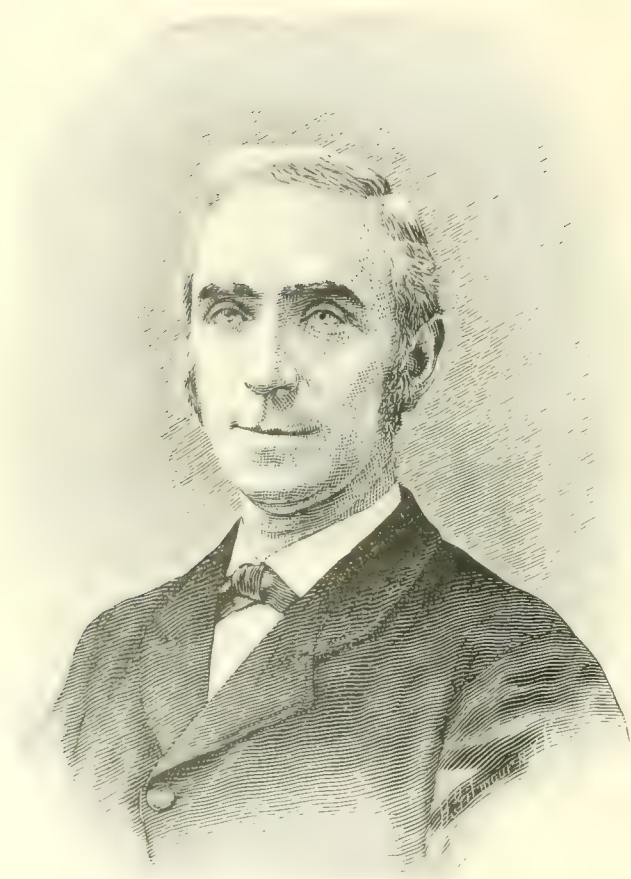
The same year a Mr. Paulsen made glue and ground bone on First street, Williamsburgh, near the present site of the sugar house, opposite the Cob dock. In 1851, Mr. Charles De Bergh, the son of one of the partners in the great nitro-phosphate works in London, came to this country, and finding that the sugar refiners were then using their spent bone-black for filling sunken lots, made an arrangement with them to take their entire product of this article, they packing it in casks. He stored this in lots which he hired, till the spring of 1852, when he commenced the manufacture of fertilizers from it in the building which Mr. Paulsen had occupied in First street. He treated it with sulphuric acid, and made a dissolved bone phosphate of lime, which he sold largely in Baltimore.

The same year (1852), Joseph Oechsler established a rendering establishment on Crow Hill, and ground bone extensively. He found a moderate market on Long Island, but the greater part of his product was sent to Philadelphia and the South.

In 1855, Frederick Langman began the manufacture of super-phosphate of lime on Crow Hill. His market was in New Jersey, as the Long Island farmers could not be induced to use any other fertilizer than stable manure.

The first attempt to utilize the dead animals from New York and Brooklyn, for the production of fertilizers, at Barren Island,* was made in 1855, by Lefferts R. Cornell, who had obtained a contract with the two cities for collecting these animals. Their bones and dried flesh were ground and treated with acids, etc., and shipped to the nitro-phosphate company of London, that company sending out a chemist to superintend the manufacture. In 1856 William B. Reynolds had a similar factory on Barren Island, and shipped his fertilizers to various ports on the Rhine, to be used for grape culture. In 1858, Mr. De Bergh, who had carried on his works on First street, E. D., successfully, commenced the use of dried meat as a source of ammonia, but the odor emanating from his factory was so offensive, that the city authorities com-

* Barren Island is a small island near the west shore of Jamaica bay, belonging to the town of Flatlands, in Kings county.



Geo B Forrester

pelled him to stop its use. In 1859 the factory of L. R. Cornell, on Barren Island, was burned, and he removed to Flatbush, where he carried on the business of bone-burning (for the sugar refiners) and the manufacture of bone-black, for which he found a ready market. After a time he sold out his establishment to the Zoanclital Company, who took the contract of removing the dead animals from New York city, and removed their works to Blazing Star, N. J.

In 1860, E. Frank Coe took the works which De Bergh had vacated in First street, E. D., and commenced the manufacture of super-phosphates of lime for dealers in the South, and continued there till 1864, when he removed to Hunter's Point, and in 1880 to Barren Island. In 1873, Thomas White commenced the manufacture of super-phosphate of lime on Barren Island, for parties in the South, and still continues in the business. The census does not report his establishment under Brooklyn. In 1880, Mr. Geo. B. Forrester commenced the manufacture of chemical fertilizers in Fourth place, South Brooklyn. His fertilizers were inodorous, and he had carefully prepared formulas of combinations required for each crop and each soil. He had made these formulas and tested their efficacy in connection with another house since 1873. These have proved effectual in greatly increasing the production of the sandy loams and other soils of the seaboard States. They have a very large sale on Long Island, in New Jersey, and in the States farther South, and many thousands of tons are sent out yearly; also, other parties, in part at his suggestion, have engaged in the improvement of Peruvian guano by bringing up the percentage of ammonia, which of late years had been seriously diminished even in the best specimens. This required the erection of considerable machinery, which for convenience sake, has been placed in one of the large warehouses at the water front, where the guano is landed. Mr. Forrester is the largest manufacturer of complete chemical manures in the country; but Messrs. *H. J. Baker & Bro.*, of Smith street, and *C. Huntington*, who are also noticed among the chemical manufacturers, manufacture fertilizers quite extensively. Mr. *L. F. Requa*, of Sedgwick street, is also a large producer of goods in this line. There were no others until the present year (1883), except the parties on Barren Island, when there were two joint stock companies started, mainly, however, to deal in imported fertilizers.

The *Peter Cooper Glue Factory* and *James Greene*, also a glue manufacturer, sell their refuse products, bone, hair, etc., for fertilizing purposes; and Messrs. *Adams & Munroe*, on the New Lots road, have a fat-rendering establishment, and burn bones, making a good article of bone-black for the sugar refiners. The entire business of producing fertilizers in Brooklyn in 1880 was, according to the census, three establishments with \$545,000 capital, employing 125 hands, paying out \$51,000 wages, using material valued at \$1,063,867,

and producing \$1,252,756 annually. The amount of the business has somewhat increased since that time (a new house had started, but an old one was relinquished the business). The number of hands is now at least 150, and the product not less than \$1,400,000. It is noteworthy also that there is less consumption of animal waste and a greater call for chemical manures. The formulas of Mr. Forrester are attracting much attention and the demand for them is rapidly increasing.

But, aside from the manufactories of fertilizers in Brooklyn, there are three (one of them a Menhaden oil factory, which makes up a fish guano from the refuse, after the expulsion of the oil, and two rendering establishments for the utilization of dead animals, etc.) others in Kings county, two of them on Barren Island. These establishments turn out about \$250,000 worth of manures yearly. There is, or was a short time since, also a small factory for fertilizers in Flatbush, but we have no particulars concerning it. Altogether, it is probably not far from the truth to put down the entire product of fertilizers in Kings county at about \$1,800,000.

GEORGE BOARDMAN FORRESTER, a leading manufacturer of chemical fertilizers, was born in New York city, March 18, 1836. He was the son of James and Elenora (Irwin) Forrester. His paternal grandfather came to this country from Scotland in 1801. He was educated in the public schools of New York city, and in Jenney's Academy, then in East Broadway, New York.

Mr. Forrester commenced his business life early, being, in 1853, a clerk in the metal brokerage business, in 1854 in the iron trade, and in 1855 in business on his own account. In December, 1856, he became connected with a manufacturing firm, and advanced step by step till, in 1873, he became partner in the house. As a result of previous study and experiments, he devoted himself, after his admission to the firm, to the preparation of chemical manures, from formulæ drawn up by himself, the formula being varied for each crop, in accordance with its demand for special chemicals as plant food. So thorough had been his research into the requirements of each crop, and so successful were his manures, in producing crops of the largest quantity and best quality, that Forrester's Chemical Manures, after an experience of eight or nine years, have become very popular among agriculturists everywhere. He also devised formulæ for orange, lemon and pineapple culture, which have come into very extensive use in Florida and other southern and southwestern states, and have greatly added to the productiveness and excellence of these fruits. Like his vegetable manures, they increase the size, quantity and good quality of the products of each crop to which they are applied. A similar success has attended his formula for the culture of the sugar cane, which is now sold largely. He has also, within the last three or four years, prepared a top dressing for lawns, and a fertilizer for house and garden plants, both of which have already achieved a high reputation.

The advantages accruing from the use of Mr. Forrester's fertilizers are: that they are entirely inodorous; they are much less bulky than ordinary manures; they accomplish better results; are perfectly certain in their effect; are less expensive than the ordinary imported manures, and give better results than artificial manures of the same kind.

... partnership. Mr. Forrester had been connected for twenty-four years was dissolved, and he withdrew, taking with him his formule and his business in fertilizers, and established himself in their more extensive manufacture, at 119-125 Fourth place, Brooklyn, where he is now turning out immense quantities to supply the demand from all parts of the country, his annual out-put being several thousand tons.

In pursuance of his belief that the highest interests of the farmer are promoted by the diffusion of intelligence, Mr. Forrester has delivered before farmers' clubs in different sections of the country, several carefully prepared lectures on "Agriculture and Methods of Fertilization."

Mr. Forrester, amid an active and exceedingly busy life, has found time for participation in the duties of good citizenship. Though not an active partisan, he is thoughtful and sound in his political convictions, always more desirous of an honest and able administration of our city and state affairs than of strict party success.

Mr. Forrester is a religious man, and carries his religious principles into his business, endeavoring in all things to glorify the Master whom he serves. He united with the Cannon Street Baptist Church in New York city at the age of eleven years, and though but thirty when he removed to Brooklyn in 1866, he had been a member of its Board of Trustees for several years, and had been successively Treasurer, Secretary and President of that board.

In 1866, he became a member of the Tabernacle Baptist Church in South Brooklyn, and has been for some years a deacon of that church and President of its Board of Trustees. In 1882, he was elected Moderator of the Long Island Association of Baptist Churches, a religious body which occupies a very high rank in that denomination; and, in 1883, he was re-elected Moderator of the same body, an honor not heretofore conferred in successive years upon any other member of the association, minister or layman.

He was married in May, 1857, to Miss Emily Maria Brook.

SUBSECTION I.—*Glue and Neatsfoot Oil.*

The manufacture of glue and gelatine, which is now an important industry in this country, employing \$4,416,750 capital and about 1,800 hands, and producing in 1880, according to the census, \$4,324,072 of glue, gelatine, and allied wares, was almost entirely unknown in this country till 1820. A glue factory had been established on what was then called the Middle road, in New York city, near or on the site where the Park Avenue Hotel, Fourth avenue and Thirty-fourth street, now stands; but it was mismanaged, and the proprietor was so deeply in debt that he was obliged to sell, but had great difficulty in finding any one who would take it at any price. The location was then very far out of town, though since in the very centre of the most fashionable part of the town; and there was very little demand for any glue, except the foreign article, which was very impure and of poor quality. It was at this time (1820) that Peter Cooper, then a prosperous grocer at Eighth street, between Third and Fourth avenues, or, as they were then known, the "Old Boston road" and the "Old Middle road," finding that this property on Murray Hill could be bought low, purchased it for \$2,000, and immediately commenced the manufacture of a superior article, and at one-third the

price of the foreign article. Having driven the foreign glue out of the market, he turned his attention to the production of refined glue or gelatine. At that time, for cooking purposes, Cox, an English manufacturer, held the market with his "Sparkling Gelatine," but Mr. Cooper produced an article superior to his, and at a much lower price, while he also supplied a new demand for gelatine for photographic and other purposes. His preparations, after a few years, completely controlled the market, and at the present time there are no glues or gelatines imported, except the Russian isinglass, or fish glue, made from the swimming bladders of several species of fish. This product, we believe, Mr. Cooper never attempted. It is now imported to a small amount. Mr. Cooper remained on Murray Hill till 1845, when, finding the value of land there rapidly increasing, he purchased a large tract of land in the north-east part of Williamsburg, extending from the Maspeth road, now Maspeth avenue, to Newtown creek, and a considerable distance south, and erected there extensive buildings. Finding, after some years, that the city corporation might interfere with his extensive works, as there was great activity in building in that vicinity, he removed to another portion of his property, known as Smith's Island, near the corner of Gardner and Maspeth avenues, where his works still remain. About 1870, the glue factory was incorporated as "The Peter Cooper Glue Factory." It has been managed for many years by his nephews, Messrs. Charles and George Cooper.

The products of the factory consist of the common and white glue, liquid glues, refined and common gelatines, and a very superior article of sparkling gelatine for jellies, blanc mange, etc. They also make bone-black, and dried flesh, refuse, etc., for the manufacturers of fertilizers. Their products are said to be of the annual value of more than \$300,000—considerably less than they were some years ago, as an active competition in these manufactures has sprung up all over the country, and there were, as we have said, 82 glue factories in the United States. Of these nine are in the State of New York, and one other in Brooklyn. None of the others in New York are in any large city.

Two other factories in the United States are said to be as large, or larger, than the Peter Cooper; one in Philadelphia and one in St. Louis. The only other glue factory in Kings county is that of Mr. *James Greene*, at Ewen street, corner of Bayard. It is less extensive than the Cooper factory, but Mr. Greene makes Neatsfoot oil as well as glue. The production of the two glue factories is not far from \$500,000.

There are many interesting facts connected with the glue manufacture, and especially with the factory with which the honored name of Peter Cooper is associated, which we should have been glad to lay before our readers; but we regret to say that out of all the more than 5,200 manufactories of Kings county, the present man-

agers of the Peter Cooper Glue Factory are the only manufacturers who have persistently and peremptorily refused us any information whatever concerning their business.

SECTION XX.

The Glass Manufacture.

The manufacture of glass dates back more than 2,000 years. It has been successfully practised by many nations, some of them highly civilized and possessing cultivated and artistic tastes; others of a low grade of civilization, and making only rude articles for daily use. When it was discovered that the melting of sand with soda or potash would produce a compound transparent or partially transparent fluid, at high temperatures, and easily worked at a moderate heat, which could not only be cast in moulds, but blown into globes, flasks, cylinders, etc., the more intelligent nations began to experiment in it largely. The first and principal direction of their experiments was in the line of flasks, bottles and vases, which should take the place of the bottles of skin which were previously used, and the amphoræ, flasks and jars which were made of clay and burned by the potter's art, and used for holding wine and other liquids.

Glass was also employed for beads and other ornamental purposes. In the middle ages great improvements were made in the production of hollow glass vessels. They were blown very thin; new ingredients were mingled with the sand and alkali to make the glass clearer, whiter, and more easily worked; among these new ingredients, the red oxide of lead, and other lead salts, manganese, arsenic, borax, etc., were the most common. Colors were introduced into the manufacture of glass, and in the Venetian glass works, these were so combined, by skillful blowing and manipulation, that a variety of colors would be blended with each other, or appear in succession or alternation upon the surface of these delicate vessels. In this direction, the Venetians of the fourteenth and fifteenth centuries produced glass flasks, bottles and vases, etc., which modern art has not been able to equal; though within a few years past, the Hon. A. H. Layard, the Assyrian explorer, and some other English art connoisseurs, have attempted, with considerable success, the revival of this beautiful manufacture, in its ancient seat in the Venetian Archipelago. In more modern times, the glass manufactories of Bohemia and Moravia have been renowned for their production of fanciful articles of varied colors in glass, these articles being moulded and the colors mingled so as to produce a very fine glass. These articles, boxes, paper-weights, etc., contain a considerable percentage of minium or red lead, manganese, etc., while the Venetian glass has very little of these ingredients, and is remarkable for its lightness. Plate, cast or rolled glass has also been a very

important modern product of glass works, being used for the best mirrors, windows of stores and shops, and of the finer dwellings, and of late, for glazing of coaches, for small casements for houses, as window glass, and stores, and for many other purposes. The best is produced in France; the English plate glass comes next, and it is manufactured, to a moderate extent, of very good quality, in this country, while an inferior but very strong article is manufactured in Germany. The manufacture of bottles of all qualities, is usually the first development of the glass industry in a new country. These are generally made of alkalies and sand only, and having a green or yellowish green color, or, where the ingredients are not very pure, a dark green or black appearance, the product is called green or bottle glass. Flint glass is made from powdered quartz or flints, refined potassa or soda, and usually some red lead. This product is also called white glass. When carefully made, and from pure materials, the green glass becomes so nearly white as to answer for most of the purposes for which flint glass was formerly used. Fruit cans, druggists' prescription bottles, syphons for mineral water, and the finest bottles for choice wines, champagne, etc., are made from it. Flint glass has, however, a wide field. Druggists' and fancy bottles, vases, colognes, and lamp and gas chimneys and shades, as well as most descriptions of colored glass, easter bottles, glass chandeliers and drops, radiators, headlights, etc., etc., are from this kind of glass. Glass tubing is also made from it. By the addition of a considerable amount of red lead, and some arsenic and manganese, glass suitable for plate glass, optical glass, glass for philosophical instruments, etc., etc., is produced. Attempts have recently been made to use glass blocks of large size, instead of brick or stone; for building purposes. If it can be produced on a large scale, and the glass thoroughly annealed, there seems to be no good reason why it should not be successful. There has been much thought and labor expended within a few years past on processes of annealing, which should so toughen the glass as to make it practically unbreakable. A certain measure of success has been attained; the articles intended to be annealed were plunged, at first in cold oil, while still very hot, and the surface was so far hardened that they might be thrown about the room without breaking, but if they chanced to strike or be struck by a sharp metallic point, like the point of a nail or tack, or a knife blade, they flew at once into ten thousand pieces, the toughening being only of the surface, and the interior substance expanding destructively, the instant the air reached it, on the same principle with the Prince Rupert's drops. A modification of this process, the oil being heated, and the glass allowed to cool in it gradually, has been tried with somewhat better success.

Several attempts have been made to make dishes, plates, statuettes, etc., of an opaque glass, as substitutes

for some time past, the articles being hardened in the same way, but these attempts have proved failures thus far, and are all, we believe, now abandoned. The glass manufacture is a very extensive one in this country. Every description of glass is now manufactured here, though the plate glass products have not been as satisfactory as some others. The imports of glass of all kinds now average about \$6,600,000 a year, of which more than one-half is plate glass, against ten millions more a dozen years ago. In 1880, the total product of our American glass works was reported as \$21,154,571, and this was undoubtedly considerably below the truth. It is safe to say that we produce four times as much as we import. Of our manufacture of glass one-half is produced in Pennsylvania, mainly in Pittsburgh and its vicinity; about one-seventh in New Jersey, and one-eighth in New York, of which amount Brooklyn and its immediate vicinity produces more than two-thirds. Pittsburgh is easily first in this manufacture, and it is doubtful whether Philadelphia or Brooklyn comes next, their production is so evenly balanced. New York city has no glass furnaces, and only Baltimore and St. Louis among the other larger cities are engaged in the business at all, and they only in a moderate way.

In Kings county, the industry is of long standing. As early as 1764 glass bottles were made here, a specimen bearing that date and the name of the manufacturer being now in the museum of the Long Island Historical Society. There was, probably, in Gowanus or its vicinity, or possibly in Flatbush, a small glass furnace from that time on, but we have been unable to trace its history. In 1833, a crown glass factory was established in the then village of Brooklyn. Of those of later date, the oldest are believed to be the glass houses of South Brooklyn, probably that which, with some change of location, is now owned by Hagerty, Bros. & Co. About 1850, a Mr. Dorfflinger established a large glass house on or near Concord and Prince streets. Snyder, Storms, Brookfield, Dannenhoffer and Huwer were engaged in the business at different points within the next ten or twelve years. About 1866, Mr. Hibbler, who had been in the employ of Dorfflinger, purchased the works at Concord and Prince streets, a brother of Dorfflinger being his partner. On the death of Mr. Dorfflinger in 1879, Mr. Rausch took his place, and the firm is now *Hibbler & Rausch*. This is said to be the largest glass works in Brooklyn, the capital invested being \$175,000; hands employed, 350; wages paid, \$20,000; out-put, \$240,000, or more. They manufacture druggists' show bottles, glass tubes, plain and engraved or decorated globes, lamp and glass chimneys, fine bottles for Cognacs, etc., ester bottles, and, indeed, almost everything in the way of glass hollow ware, except druggists' prescription bottles and glass fruit cans. Like several of the other glass houses of Brooklyn, their most considerable product is of glass globes and of chimneys,

plain, engraved and decorated. The *Greenpoint Glass Works*, now owned and run by the E. P. Gleason Manufacturing Company, are also largely engaged in the manufacture of the finer qualities of globes and chimneys for gas, petroleum oils and electric lights, as well as other decorated and engraved bottles, vases, etc. They have also set up recently a furnace for green glass wares. A third house largely engaged in glass manufacture is the *La Bastie Glass Works* of Messrs. Ernest De la Chapelle & Co. This house have attempted some new departures in the manufacture of glass, annealing their chimneys and other wares in oil to make them indestructible. After some failures and changes in their processes, they have achieved a fair measure of success. The chimneys, globes, etc., are not, indeed, absolutely unbreakable or indestructible, but, through the toughening process, they are made much more durable than the ordinary wares; and they have so large a demand for their globes and chimneys, that they are importing them largely in the unannealed condition to subject them to their processes, in addition to their own production, which is quite large. In another direction, that of making plates, cups and other table wares of opalized glass, after the fashion of the "hot cast porcelain" made some years ago in Philadelphia, and toughening these wares by their annealing processes, they have been less successful, and have, we believe, now abandoned it. Other large houses engaged in the hollow glass ware manufacture are the *Empire State Flint Glass Works* of Francis Thill; he makes all kinds of flint and colored glass ware, and has been in business since 1857; his capital is \$80,000; number of hands, 160; wages paid, \$75,000; annual product, \$175,000; the *Bushwick Flint Glass Works* of Messrs. Brookfield & Co.; the *Long Island Flint Glass Works* of J. N. Huwer; the *East River Glass Works* of A. Stenger & Bros., also flint glass; and the *Williamsburgh Flint Glass Company* of N. Dannenhoffer. Most of these, and we believe all, manufacture similar wares of flint glass and hollow wares. Two houses—*Hagerty Bros. & Co.*, of South Brooklyn, and *George Meyer* of Williamsburgh—make green glass wares, and mainly bottles of all kinds. There are also six or seven smaller houses running only small furnaces, and making mostly fancy glass wares, chemical, philosophical and optical glass, and imitations of the Bohemian and Venetian wares.

There are also nearly a dozen glass stainers, enamellers, decorators, and fancy glass blowers, some of whom make a specialty of stained glass windows and decorations.

There are not, so far as we are aware, any manufacturers of window glass, plate glass, or other flat glass wares, or of druggists' prescription bottles, or glass fruit cans, in Kings County.

The entire production, which in 1880 was stated as \$1,351,582, employing 1,884 hands, and using \$952,750

capital, is now somewhat larger, though severe competition has greatly reduced prices. A rough estimate makes the actual production somewhat above \$1,000,000, and the number of hands about the same as in 1880.

The competition has had the farther effect of leading several of the larger houses to investigate new lines of manufacture, and the improvement of those in which they are already engaged, to the highest degree of perfection. The plant of a glass house is quite expensive, and the result in the present condition of the trade is hardly sufficiently assured, to warrant so large an outlay as would be necessary for a radical change. The directions toward which they are looking are the finest pressed wares, plate glass, glass blocks, and rough plate for roofs, floors, etc., glass mosaic pavements and floorings, etc., etc. Vault lights are now made by several houses here. The glass industry is in some respects in a transitional state, and though holding its own, is not advancing as rapidly as most other manufactures.—Its future is, however, promising.

SECTION XXI.

Porcelain, Pottery, and Fictile Arts.

In no department of Brooklyn industry, have the officers of the Census of 1880 been guilty of greater or more deliberate injustice, than in the treatment of our porcelain manufactures. There are several small potteries, in which the coarser articles of stone-ware,—jugs, crocks, stone jars, flower-pots, etc.,—are made; and these, to the number of six, were duly recorded under the head of "Stone and Earthenware." There are also five or six establishments, of a miscellaneous character—one making a fair article of encaustic tile, two or three others making draining tiles, and one or two, fire brick; the whole product of these latter industries, which were set down as four, was reported as amounting to \$201,084, and employing in all 135 hands; while the stone and earthen ware men were credited with 298 hands, and an annual production of \$194,284. But the only manufactory of true porcelain, in Brooklyn and on this continent, the chief glory of our manufacturing industry, in its development of high art, and its successful struggle for twenty years against obstacles which had broken down every previous attempt to produce genuine porcelain, was not even named. And this was not an accidental oversight; the able special agent of the Census Office, Mr. J. H. Frothingham, a man of culture and taste, had visited the *Union Porcelain Works* at Greenpoint, and was so deeply impressed with the excellence of their production, the genius displayed in their manufacture, and the extent of the works, that he wrote a full description of them to the Census Office, and urged them to give it a special notice. It was all in vain. They would consent to its insertion, either under the head of "Earthen and

Stone ware," with no separate designation, or under the head of "Brick and Tile," in the same way; but as a separate title, "Porcelain," never. As Mr. Frothingham declined to class it under either of these misleading titles, it was left out, though there is reason to believe that the number of hands was credited to the stone and earthen ware establishments; but its distinctive character, and its products were entirely omitted. And yet, at that time, these *Union Porcelain Works* had been in existence for seventeen years, under their present proprietor; had an invested capital of more than \$250,000, were employing over 200 hands (they employ more, now), and were turning out fine hard porcelain goods, which were the admiration of the best connoisseurs in ceramics, to a value of about \$250,000 annually. We forbear all speculation on the motive which actuated the Census Officers in pursuing such a course. It was one of the many sins for which they will have to answer to the American people. Let us endeavor then to atone, so far as we may, for this neglect of the Census Office, by giving, as briefly and clearly as we can, the history and peculiar processes of manufacture of the *Union Porcelain Works*. For the better understanding of the subject, some preliminary explanation may be necessary.

Writers on the ceramic art divide the finer productions of the potters' art into two classes: natural or hard porcelain, and artificial or soft porcelain; the latter being, in reality, not porcelain at all, in the true sense of the word. The wares of Sevres and Limoges, in France, those of Meissen and Berlin, in Germany, and all the best wares of China and Japan are of natural or hard porcelain; those of Staffordshire and the other English potteries are of artificial or soft porcelain. No hard porcelain is made in Great Britain. In this country a number of attempts have been made to produce hard porcelain; among them, one in Vermont, in 1810; one in New York, in 1819; and one in Philadelphia, in 1827 (it is possible the last was not hard porcelain); one at Egg Harbor, N. J.; several attempts near Flushing, L. I., and many others in various places, some 25 all told. All of these were unsuccessful. The only porcelain works that have ever succeeded in making hard porcelain a success in this country, are the *Union Porcelain Works*, at Greenpoint. There are manufactories of artificial or soft porcelain at Trenton, N. J., and some of the 21 potteries there make dishes, vases, etc., of very artistic and elegant designs, and vie with the English potteries in beauty; there are also extensive potteries of soft porcelain at East Liverpool, Ohio, at Cambridge, Mass., and perhaps at some other points; but none of these are manufacturing, or attempting to manufacture, natural or hard porcelain. All of these would be classed by the French under the head of *pâte tendre*. What, then, is the difference, and why should the hard porcelain be preferred to the soft? We answer, the difference is principally in the mode of manu-

factory, the absence of burning, and the entire absence of boracic acid, lead and other metallic oxides, or other poisonous substances in the glaze that covers the surface; the material employed for the body of the ware is nearly the same in both, though used, in somewhat different proportions, and must be, in the hard porcelain, of much finer quality. Kaolin or porcelain clay, of the very best quality, and the purest of quartz and feldspar, are the constituents of the body of natural porcelain, or China, as it is more commonly called. All other wares can, and do, use more or less of the common cheap ball clay. The kaolin and feldspar are in reality much the same thing, except that in the kaolin the feldspar has reached its powdered condition, by a process of nature, which abstracts the potash and causes disintegration.

Pure kaolin is the product of feldspar, which has been, by the processes of nature, reduced to powder, while the feldspar used in porcelain manufacture is still as hard as the granite rock from which it came, and has to be reduced to powder by crushing and grinding. The quartz adds the element of silica to the porcelain.

In the manufacture of hard porcelain, the kaolin, feldspar and quartz, after undergoing the processes of grinding, washing and de-magnetizing, of pressing, mixing, and kneading, of forming, trimming, and drying, all of which we shall presently describe, are ready for their first baking, which will bring them into the condition, technically known as "biscuit."

At the Union Porcelain Works, the moulded and dried wares are placed in single layers, carefully separated and supported, in the seggars, and these seggars carefully placed one over the other, are wheeled into the upper part of the great kilns, where the heat is much less intense than in the lower part, being, as we may say, the waste heat of the lower kiln. Here, at a temperature of about 1,500 degrees, they remain from thirty to thirty-five hours, and after their removal from the kiln, are suffered to cool for two or three days; when taken out of the seggars, they are brittle and porous, not very hard, and can, if necessary, be trimmed in the lathes. They are now ready for the glazing. The material for the glaze is the same as for the ware itself, except that the proportions are entirely different, in order to make it fluent and flux at the same time that the body becomes vitreous. The glaze must be reduced to the most impalpable powder, and suspended in large tubs of water, by constant stirring. The biscuit ware is dipped into this, and quickly absorbs the water, leaving the glazing compound in a nearly dry paste upon the ware. It is now looked over and cleaned off, and placed in shallow seggars (which, for this purpose, are made of the most refractory clays), great care being taken to protect the wares from being warped or marred in the seggars. When thus carefully placed, they are put in the lower

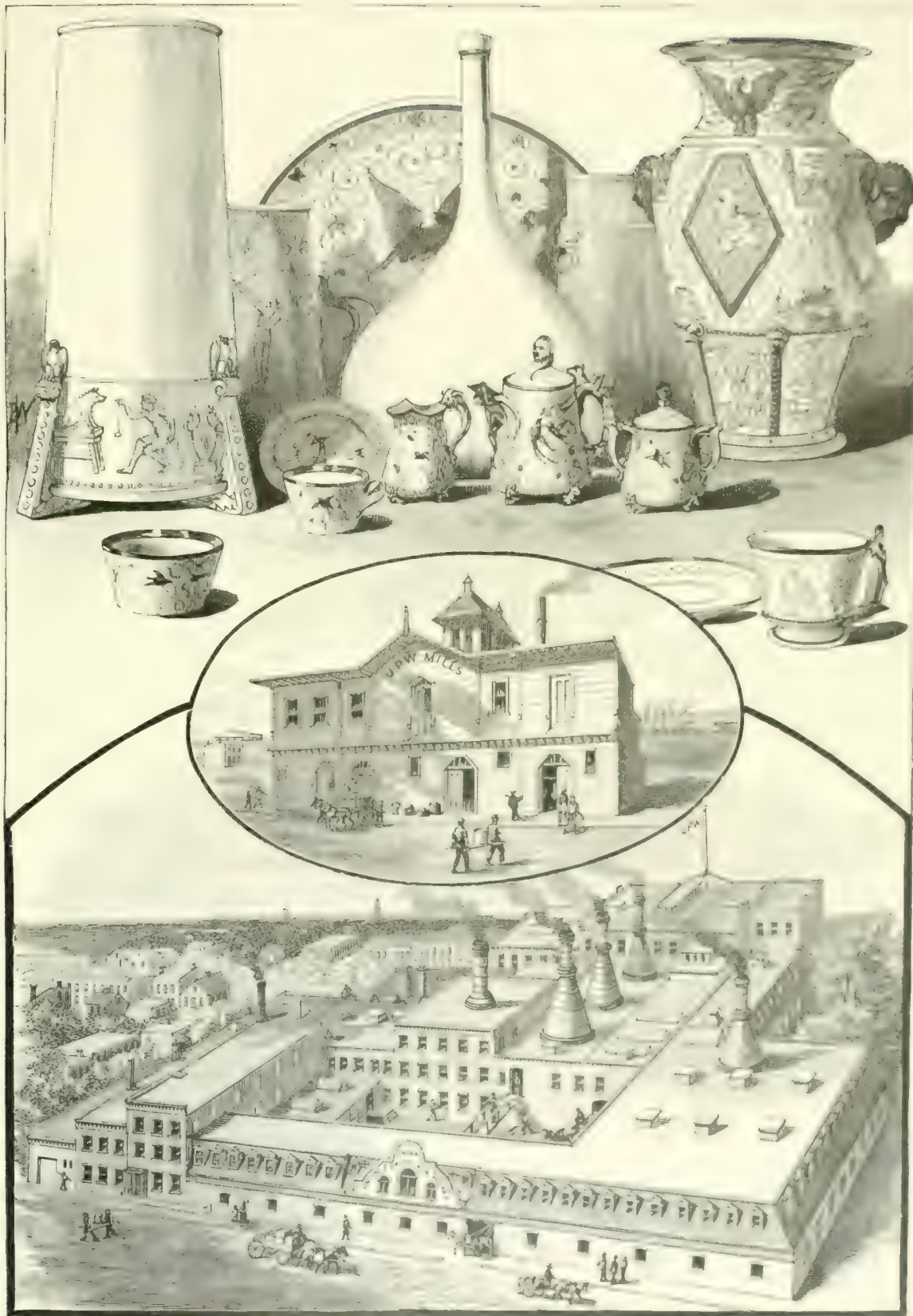
division of the kilns, and the fires urged, until a heat of from 4,000 to 5,000 degrees is obtained, sufficient to make the whole of each piece, glazing and body, perfectly homogeneous and vitrified. This heat is maintained from 30 to 35 hours, and the wares are suffered to cool for three days before being taken out.

They are now finished wares. They will not craze, or crackle, or stain, whatever may be the fluid placed in them, and whatever the degree of heat to which they are subjected. The process of burning the soft porcelain and earthenware is, in most respects, the reverse of this.

The biscuit, in the first burning, is subjected to a high heat, perhaps 3,000 to 4,000 degrees; the glazing, while containing some feldspar, is largely composed of lead, borax, etc. It is applied at a low heat, and forms a glaze, covering over the biscuit, but not at all homogeneous with it, and the ware is fragile, and sure to craze or crackle if subjected to considerable variations of temperature. The process is, in every stage, easier than that for china ware, but the results are much less satisfactory.

We recur, now, to the history of the *Union Porcelain Works* at Greenpoint. A small establishment, with one small kiln, was started by a family of Germans, on the site of the present works, for the manufacture of door-knobs, etc., as early as 1854. They were made with a mixture of kaolin and phosphate of lime, after an English formula. They proved unsuccessful, and the works passed into the hands of a stock company, who succeeded in inducing Mr. Thomas C. Smith, then a prosperous architect and builder in New York, to loan them considerable sums of money.

The war came on, the company failed, and Mr. Smith found himself obliged to take the factory for his debt. Full of faith and patriotism, even in that dark hour, in his country's success in the near future, Mr. Smith began to cast about him for some way of utilizing this factory, in the prosperous times that were to come. In 1863, he was in Europe, and embraced the opportunity to visit the porcelain factory of Sevres, in France, and some of the English potteries in Stoke-on-Trent; and when he had returned home he had fully made up his mind to undertake the manufacture of hard porcelain. The factory was put in thorough repair, new buildings erected, machinery and materials procured; and, after two years of experiment and a heavy outlay, he put upon the market a small quantity of genuine porcelain. Finding a ready market, he increased his productions each year, and by the application of new and improved machinery, overcame the numerous and formidable obstacles which beset every step of his pathway. Nowhere else, either in France or Germany, in China or Japan, had the manufacture of hard porcelain been successful without government aid and patronage; but he was not only fighting his battles without assistance from his government, but was threatened, in the



THE UNION PORCELAIN WORKS AND WARES

very infancy of his enterprise, with the reduction of the duties on European and Asiatic porcelain; while his competitors, who were manufacturing soft porcelain, were seeking, in every way, to damage and depreciate his wares. But he fought on, expending over \$250,000 on buildings and plant; buying a quarry of quartz and feldspar, to be sure of the best; building and furnishing a machine shop, where he could produce his own machinery and tools; when he found a need for a machine which would do his work better than it was done, inventing and manufacturing it; when the time came for producing decorated china, resolving to use only original designs, as he had already done in the forms of his vases and dishes; and, later on, procuring the services of an eminent artist and sculptor, to aid him and his son in this part of his work. Every year has witnessed material progress, till his establishment is known all over Christendom (better, we had almost said, in Europe, than in Brooklyn), and his wares are fully appreciated wherever they are known.

He has received from the various Expositions, their highest awards. At the present time he is employing more than two hundred hands; paying liberal wages; has a very large capital invested in the business and plant, and turns out about \$250,000 of his various wares, many of them of the highest artistic beauty, each year.

Some of his vases are of exquisite design. One of them, which forms a prominent feature in our illustrations, is known as the "Keramos Vase," and was suggested by Longfellow's beautiful poem, "Keramos." We have left ourselves but small space to speak of the processes of this interesting industry, but we cannot wholly omit them. The kaolin, procured mainly from Pennsylvania, comes in lumps and powder, and is mixed with the quartz and feldspar (from Mr. Smith's own quarry at Branchville, Conn.), which has to be ground, at first coarsely, and afterward to an impalpable powder. The combination of these three ingredients in a huge vat, with water, to the consistency of a thin paste, is technically called "mixing the slip." Inside the vat, a vertical shaft, supporting a number of radial arms, keeps the "slip" in a state of constant agitation, as the liquid slowly escapes from an orifice beneath into a sieve. The sieve is constantly shaken, and the "slip" continues its sluggish course down a short channel, and between two sets of horse-shoe magnets, some horizontal, some perpendicular. The object to be attained by these magnets is the removal of every fine particle of iron which the mixture may contain (quartz has a strong affinity for iron and other metals); every speck of the metal retained, however minute, appears as a black spot on the snowy surface of the finished china. After passing the magnets, the liquid runs into a second sieve, and thence into a second vat, at a lower level, where a similar apparatus to the first keeps it constantly in motion. After passing through

several of these vats, the "slip" is led into storage tanks. From these it is transferred to cloth or canvas bags, placed between the leaves of a screw press, ingeniously contrived to squeeze the water from the "slip;" the material comes out of the bags a heavy dough, which is thrown into bins and kept there for months to ripen. Age improves it, and the Chinese have a tradition that the material for their old porcelain was kept for a hundred years. When wanted for use, this dough is sent to the kneading machine—a very ingeniously constructed machine, of French invention—which kneads and mixes it quietly, but with the utmost thoroughness. When thus kneaded, it is ready for moulding.

Here we learned something which surprised us; the potter's wheel, which, for more than three thousand years, had been so fully identified with all fictile manufactures, is now obsolete, and is abolished from the Union Porcelain Works. In its place, there are long tables, before which a row of employés are stationed, and in front of each one are perpendicular and horizontal revolving discs, which are put in operation by a mere pressure of the knee on a lever. Beside each operator is a mass of the dough, irregularly shaped, perhaps in the form of imperfect tubes. The disc, or revolving head, being at rest, the operator puts upon it a mould, the interior of which is of the exact form of the exterior of a bowl, or cup. Into this he inserts one of his dough tubes, and the disc is set in motion, the plastic mass being pushed with his fingers out against the side of the cavity. Then a counter-poised metal blade is brought down into the cavity, which is so adjusted and shaped as to remove exactly enough material to leave the bowl or cup of the requisite thickness, and, at the same time, to form its interior. Sometimes these dishes, or bowls, are of oval form, and an arrangement of cams enables the operator to turn them out not quite so rapidly, but yet with a fair amount of speed. The dish, cup, or bowl, when removed from the mould, is set aside to dry and be turned off and finished, and is then ready for the first baking. Many objects do not require the revolving head, and are pressed into moulds, either by machinery or by the hand alone. This is the case with the handles, ears, noses, etc., of pitchers, tea-pots, sugar-bowls, etc., etc., as well as with most of the porcelain hardware.

Next comes the first baking, or converting the ware into biscuit. We have described this pretty fully, when showing the difference between hard and soft porcelain, but a few words concerning the kilns and seggars will be in place here. The kilns are huge cylindrical structures, fifteen and a half feet in diameter, and having two stories, the lower being about eleven and a half feet, and the upper about nine feet in height. The walls, which are of brick, faced inside with fire brick, are more than three feet in thickness.

When fired, a kiln uses about ten tons of coal to a baking, and the combustion is continued for thirty to thirty-five hours. The upper story is used for the first baking, the heat being much less than that of the lower story. The *seggars* are round boxes, made of a cheap but very refractory clay, and at these works are made with great care on the premises, to insure their good quality. In them, for the first baking, as many articles are placed as can be put in, without danger of damage. They are then piled into the kiln, the bottom of one seggar serving as cover to the one below it, and the piles reaching to the top of the kiln. The surfaces are separated by rings of soft clay, which form a tight joint. About 30,000 to 60,000 pieces of ware may be included in one baking.

We have also described the processes of glazing and second baking, to which these wares owe their uniform excellence. The heat generated in the lower story of the kiln is far more than sufficient to melt iron, nearly sufficient to melt platina. Great skill is required in managing the fires, and they must be checked at a point when the glaze is fluent and the body vitreous, just before the articles themselves melt. There are glass-stoppered holes in the sides of the kiln, through which the process of baking is watched. The porcelain, if it is to remain white, is now finished, and nothing more is required except to sort it over for imperfect pieces, which are consigned to the grinding mill to be pulverized and made over.

If, however, the ware is to be ornamented with colors or gilding, or is to have any artistic designs placed upon it, the process known as decoration is yet to be applied to it. The decoration is done by hand. The colors used are formed by the combination of certain metallic oxides and salts, with certain fluxes which enable them to fuse into colored glasses. The oxides are usually those of chromium, iron, uranium, zinc, manganese, cobalt, antimony, gold, etc. The salts and oxides are ground up with turpentine, and painted on in the ordinary manner. It is not until the heat of the furnace has driven off the oil, and chemically combined the ingredients of the colors, that the effect can be determined, for the hues at first are dingy and unpleasant, and give no idea to the inexperienced eye of the intended effect.

Gold is applied by dissolving the metal in aqua regia (nitro-muriatic acid); the acid is driven off by heat, when the gold remains in a state of minute division. After the ware is ornamented, it is enclosed in a muffle furnace, an inner box of fire-brick, which is so arranged as to be completely surrounded by the products of combustion. After the colors are developed the articles are removed, and hand burnishing of the metallic portions completes the manufacture. During the past season the Messrs. Smith, having occasion to erect a new building, have fitted up several studios, to which access may be had, without going through the main

building, for the use of ladies who wish to try their skill in the fascinating art of decorating china. Every facility will be furnished them for this pleasant pursuit, and their pieces can be fired at very short notice.

THOMAS C. SMITH, the only manufacturer of hard porcelain in this country, was born in Bridgehampton, Suffolk county, Long Island, in 1815. His ancestors, on the maternal side, migrated from Wales to Bridgehampton, in the town of Southampton, of which town they were the earliest settlers a little more than two hundred years ago. His father died when he was only six years of age, and he was brought up by his widowed mother on a farm purchased by his ancestors from the Indians. The schools of Bridgehampton were good for the time, and he enjoyed their advantages until he was sixteen years of age, when he left home alone and came to New York to seek a place in which to learn a trade. After various disappointments, he apprenticed himself to a master builder, giving his promise to serve faithfully as an apprentice for four years. He kept his promise to the letter, and received for the first year 50 cents a day, for the second, 60 cents, for the third, 75 cents a day, and on the fourth year he was to receive 87½ cents, but his employer was so well pleased with his faithfulness that he voluntarily made his compensation a dollar a day. His employer allowed him to spend the months of January, February and March at home, with his mother, and these months were diligently employed in school, in improving his education.

Before he was 21 years of age, he commenced business as a master builder, but hard work and exposure to rough weather, brought on severe sickness, and he returned to his home in Bridgehampton to enjoy a mother's tender care and nursing. He suffered from two successive attacks of illness, and while recovering from these, he employed all his leisure moments in still further improving his education. At this time his health was so completely shattered that he gave up the hope of being able to pursue his trade as a builder, and endeavored to qualify himself to become a teacher. In 1837 he returned to New York, without money and with impaired health. Here he was offered, by a master builder, a position as superintendent of buildings, with the understanding that he was to do only what his condition of health would permit.

He soon found that he was improving in vigor and strength, and in September, 1839, again commenced business as a master builder, and continued in it with remarkable success till 1863. At this time, his health having been again impaired by protracted overwork, he went to Europe for rest and recovery. He was in Paris when the intelligence was received there of the disastrous battle of Manassas, generally known as "the second battle of Bull Run." Among the many failures and business wrecks which were caused by the outbreak of the civil war, there was one in which Mr. Smith had a special interest—a small porcelain factory at Greenpoint, Brooklyn, which was largely indebted to him, and which he had been compelled at the winding up of its affairs, to take in partial satisfaction of his debt.

Dark as was the political horizon of our country at this time—drifting, as it seemed to many, to inevitable bankruptcy and ruin—Mr. Smith looked hopefully to the future, and believed that, "when this cruel war was over," manufactures would thrive as they had never thriven before, and that we should become one of the greatest manufacturing nations on the globe. Our history for the past twenty years has justified his foresight. This conviction of his, acting upon a mind intensely practical, led him to consider the possibility of utilizing the little porcelain factory, which had cost him so



John C. Smith

much, and which was lying idle and dismantled at Greenpoint.

He began at once a critical examination of the porcelain manufactories of France, to which he was by good fortune admitted, and the earthenware manufactories in Staffordshire, in England; and, though he was convinced that there would be great difficulties to surmount in finding the proper materials, properly prepared, and in chemically combining them, yet he was strongly impressed with the idea that there was nothing done there which could not, by perseverance and industry, be done as well here. To a man of his strong will and fine mechanical genius, and in the full vigor of a stalwart manhood, nothing seemed impossible. Accordingly, immediately after his return, he cleared away the wreck and rubbish of the little porcelain factory, and began the necessary experiments, which would enable him to start out on his new and unknown field of labor.

After about two years of diligent experiment, he was prepared to put upon the market merchantable specimens of the true, hard, vitreous porcelain. While conducting these experiments, he very wisely manufactured the simpler articles of porcelain—door knobs, caster wheels, insulators and other hardware trimmings, for which there was an immediate demand, and at a fair profit; but soon proceeded to manufacture a general assortment of China table ware for large hotels, and later, vases, plain and decorated, and the more delicate articles of porcelain, which compare favorably with the finest wares of Limoges, Meissen and Berlin, alike in the beauty of their design, and the delicacy and tastefulness of their decoration. Every year has witnessed material

progress both in the quality and quantity of his wares. The copying of European designs or patterns is studiously avoided, much originality is displayed, and many articles are of such rare artistic beauty, as to excite the wonder and admiration of connoisseurs from all parts of the world. The "Union Porcelain Works" has now grown to a vast establishment, owning its own quarries of quartz and feldspar, and mills to crush and pulverize these earths, and has become a favorite resort for those interested in art manufactures. In accomplishing such a work within less than twenty years, Mr. Smith has had difficulties and obstacles to contend with which would have utterly appalled a man of less resolute will, and of inferior mental resources. Not least among these has been the utter indifference of both the American government and the people to efforts and sacrifices for the promotion of our national reputation in industrial art, which in any country of Europe would have been crowned with the highest honors, and have received the most substantial rewards. But he has *succeeded*, and both in America and in Europe, has acquired a reputation which will go on increasing throughout the world.

In his domestic relations, Mr. Smith is singularly happy; his son, a young man of rare genius, is associated with his father in business, and is well qualified to carry forward the work to still greater perfection. In the midst of most engrossing business cares, Mr. Smith has found time for the promotion of great benevolent institutions. He has been for many years President of the New York Ophthalmic Hospital and College, and is a zealous promoter of many other charitable and financial institutions.

In politics, Mr. Smith is, from principle, not from love of party, a decided republican, though never an office-seeker or office-holder. He is, in the best sense of the word, a protectionist, believing in a tariff which will fully protect all our industries, till the wages of Europe approximate the wages paid for labor in this country, and remove duties from those raw materials only, which have not been, and cannot be produced here.

A word, now, concerning the humbler branches of fictile manufacture prosecuted in our city, which, though with one exception, not specially ornamental, are in their way very useful.

There were in Brooklyn in the summer of 1883, ten potteries engaged in various branches of the business, the most extensive being the red-ware flower pots, drain tiles, white lead pots, etc. Three or four of the number confine themselves to earthen and stone ware, for culinary, chemical and technical purposes, and two, we believe, make sewer pipes, large and small. There is one house recently started, the International Tile Company, which produces encaustic, geometrical, mosaic and plain tile pavements, of very fine quality. Four houses make fire-brick, and the quality of their goods is such as to increase their sales. The present statistics of these manufactories we have not been able to ascertain definitely; if any reliance can be placed on the census returns, they probably employ in all about four hundred hands, and their annual product may, perhaps, be safely estimated at from \$424,000 to \$450,000. Their business is generally local, though some of them have warerooms in New York city. There are not included in this statement the chemical pottery works of Mr. Chas. Graham in Metropolitan Avenue, which are devoted solely to the manufacture of chemical vessels of stoneware, many of them of large size, which are so made as to resist the action of the strongest acids; and also the chemical pottery works attached to the great acid works of Messrs. Martin Kalbfleisch's Sons, which have already been mentioned in the account of those works. The production of both is large, but we have no definite figures concerning it.

SECTION XXII.

Bread and Bakery Products.

If the annual product of these manufactures were to be stated, without reference to the number of establishments engaged in it, "Bread and Bakery Products" would stand as about sixth or seventh of our industries; for the census of 1880 reported the annual product of that year, in Brooklyn, as \$5,594,975, and adding in the bakeries of the county towns, about \$5,900,000. But this large amount was the production of 562 bakeries, and was an average of but about \$10,600 to each. The amount of capital reported was about \$1,080,000; the number of hands employed was 1,361; the amount of wages paid about \$626,000; and

the amount of material used about \$1,900,000. The number of bakers in the county, in May 1883, was 622, and if their average production was the same it would make the annual product about \$6,500,000. Of course it is impossible for us, without the power of governmental authority, to ascertain with entire certainty whether the bakers have increased or diminished their production; but we know these facts, viz., that the failure of a baker is one of the rarest events in our commercial history; that most of them give evidence of an enlarged business, with the constantly increasing population, and that the large houses have, within the past three years, greatly enlarged their facilities and products. The bakers are divided into several classes; one class devote themselves exclusively or mainly to the manufacture of bread, and generally to the production of three or four standard kinds, as the Vienna, the cottage, the family, and the French twist. Most of this class, finding an insufficient outlet for their productions in their local family trade, supply stores, restaurants and some hotels with it, and if they make a really good article, soon secure a good custom and make large profits. Another class make only crackers, and by enterprise, and the study of the wants of the public, speedily secure a large patronage. Another class, while making the ordinary kinds of bread, generally of fine quality, make also what are known as the fancy styles of bread, Queen's rolls, tea biscuit, raised biscuit, French rolls, muffins, buns, etc., etc. Most of this class of bakers make cake and pastry also. Still another class are known as *cake bakers*, though they make some bread, and most of them pies also. The manufacture of the best qualities of cake is one of the fine arts, and the greatest adepts in this and fine pastry, call themselves pastry cooks, find places at large wages at the great hotels, and thus avoid the risks of keeping up bakeries for themselves.

The *pie bakers* are also a class by themselves, and their wares, especially in a county which has so large a New England element as Kings, find ready and large sales. Many of the regular bakers make from 50 to 100 pies daily for their own retail trade; but the pie bakers proper, have no shop, and do not retail their goods, but sell them or leave them on commission with the better class of restaurants, with other bakers, with grocers, with cheap restaurants, and finally with liquor saloons. It is said that a pie which has been left over in turn by each of these customers, when it arrives at the liquor saloon is well nigh a week old.

Let us review these several classes and so classify our manufacturers of bread and bakery products according to their special vocations.

In the manufacture of bread only, *John H. Shults* is unquestionably the foremost baker in Kings county. He is the architect of his own fortune, and by his enterprise has built up an immense business. He has no store; never retails a loaf of bread, except the stale

lottery, and his bakers, which are sold largely to the retail and wholesale dealers who come to the warehouse for them; but his great ovens, warehouses and stables cover 16 full city lots, and include nearly the whole block bounded on two sides by Harrison avenue and Rutledge street. He is said to require for his bakeries 1,000 barrels of flour, and that of the best, a week; to make up 15,600,000 loaves of bread in a year, worth nearly \$1,100,000. He has 85 wagons on the road, keeps 125 horses in his stables, and pays his foreman, who is the man from whom he learned his trade, \$20,000 a year. It is said that there is no bakery on so large a scale in the United States.

Next to Mr. Shults in this business, though at a considerable distance below him, is the house of *August B. Herseman & Co.* Mr. Herseman having formerly been Mr. Shults' foreman or superintendent. Mr. Herseman's place is at 292 Graham avenue. Like Mr. Shults, he keeps no retail shop, but sells his large product, except the stale bread, to hotels, grocers and restaurants. He has been in the business but three or four years, but has built up a trade of about \$250,000, requiring 22 wagons and about 30 horses.

Of the other bread-makers, the *Jennings Bakery Company*, of which Mr. Ephraim J. Jennings, whose portrait graces our pages, is president, probably does as large a business as any, except the *National Baking Co.* They, like most of those which follow, do a retail as well as a wholesale business. The Jennings Bakery Company have eight stores, and employ 30 wagons and 50 men; use, on an average, 120 barrels of flour per week, and have an annual out-put of about \$190,000.

EPHRAIM J. JENNINGS was born in Brooklyn, August 17th, 1849. His father was Charles Grattan Jennings; his mother was Sarah Ann Dunning, of Rochester, Kent county, England.

Mr. Jennings' great grandfather, Jeffrey Jennings, was a native of Dublin, Ireland; he married a sister of the celebrated Sir Henry Grattan, who was also a native of Dublin. One of his paternal ancestors, John Jennings, settled in Dublin about the year 1700. He was a man held in high consideration and esteem, and when he went to Dublin was given, as was the custom in treating men of distinction, the freedom of the city. It is supposed that he came to America, with other members of the Jennings family, early in the eighteenth century, and, after remaining a while in this country, he returned to Dublin.

The parents of the subject of this sketch left London and came to America in 1838, settling in Brooklyn. His father was a custom-house broker in London. Meeting with reverses, he emigrated to America for the purpose of bettering his fortune. Here he became a manufacturer of ladies' shoes. He was a well-educated, high-minded and eminently respectable citizen. On his settling in Brooklyn, he became a member of St. Mary's Episcopal Church, having been reared in the faith and teachings of the Church of England. His daily life accorded with his religious principles, and by precept and example he adorned the religion he professed. He was marked for his courtesy and pleasing manners. For fif-

teen years he occupied the position as sexton of St. Mary's Church.

He became a resident of Bethlehem, Pa., in 1868, where, in 1869, he died. When young Jennings was five years old, he attended public school No. 4, Classon avenue. When No. 25, in Walworth street, was opened, he attended there, until No. 4 was reorganized with Mr. E. Spafard as its principal, and he continued to attend here, till he was twelve years of age.

As he was thrown on his own resources for support, when not in school he used to vend the *Brooklyn Eagle* by way of adding to his income. He appears to have been a close and intelligent student, mastering all the branches taught in the school he attended.

Deciding to engage in some occupation, he entered the office of the *Journal of Commerce*, then located at the corner of Wall and Water streets, New York city, where he remained six months. Leaving there, he began learning the business of printing in the office of D. Nicholson, where he remained about one year, when he accepted an offer from Williams & Guion, 40 Fulton street, New York, prominently connected with the National, Guion & Co. and German steamers. Mr. Jennings remained with this firm four years, gaining the respect and confidence of the partners by his prompt attention to business. When his father removed to Bethlehem, Pa., the young man severed his connection with Messrs. Williams & Guion, and went with the family to reside in Pennsylvania. He united with his brothers and sisters in purchasing a home at Bethlehem for his father. But, upon his father's death, about a year after becoming a resident of Bethlehem, this son returned to Brooklyn.

Times being hard and employment difficult to obtain, he engaged in the lock factory of Williams, White & Churchill, until he received an offer of a clerkship in a bakery, which induced him to leave the employ of Messrs. Williams, White & Churchill, and accept the offered situation. After serving in this capacity for two years, he started a small bakery (with but one window) on his own account, at 265 Myrtle avenue, between Canton and Division streets. Here he laid the foundation for his future success, a success which has placed him among the prominent business men of Brooklyn. He is now engaged in the same business on an extensive and prosperous scale.

Mr. Jennings occupies and has occupied a prominent position as a citizen. When but fifteen years of age, he joined Sprague's First Battalion as a drummer; but the drum corps being full, he entered the ranks and shouldered a musket. This battalion was afterwards consolidated with the 13th Regiment, after which Mr. Jennings was elected to the rank of second lieutenant, company B, now retired into the veteran service. He is now, and for several years has been, a member of the New York Produce Exchange. He is also a director in the East Brooklyn Savings Bank.

Mr. Jennings was united in marriage to Miss Alice S. Walker, at Dr. Tyng's Church, Stuyvesant square, New York, June 3d, 1873. Mrs. Jennings is a granddaughter of Edward Walker, a prominent publisher and binder of New York city.

Mr. Jennings is a member of St. Matthew's Episcopal Church, Brooklyn, having always adhered to the tenets of the church in which he was reared.

He has never been a politician, but has always endeavored to vote for those men who would best fulfil the duties of the offices to which they were to be elected.

Mr. Jennings is still a young man, honorably identified with the young business men of Brooklyn, than which no abler representatives of the business interests of the times exist in any other city.



E. J. Jennings

It is no affectation to say that to their abilities and accomplishments their beautiful city is largely indebted for the commanding commercial position it has attained.

The other leading bakers who sell their bread at wholesale and retail are: *Richter Bros., Valentine Lambert, Horace W. Stearns, Perhacs & Dahn, Rudolph C. Bacher, John Kenny, John L. Patch*, etc., etc. Nearly all of these have several stores, and from two to ten wagons, and most of them are doing a business ranging from \$20,000 to \$40,000 a year. The *National Baking Co.*, already mentioned, is a New York as well as a Brooklyn company, and has an original method of doing business. Mr. Samuel Howe, of New York, is president. The company has 45 stores, of which 35 are in New York, and 10 in Brooklyn. We do not know the details of the management of the New York stores, but the Brooklyn stores are all run by the same rule. Each has four bakers; uses 40 barrels of flour a week; each has the same number of wagons (four, we believe); all make cake as well as bread, and their out-put is nearly 21,000 barrels of flour a year, which produces a value of about \$625,000 per annum in bread and cake.

The cracker bakers, though few in number, do a large business. The directory for 1883 names only three; but one of these, the great house of *Hetfield & Ducker*, is one of the largest cracker manufactories in the United States. Their large manufactory, 75 by 125 feet, and five stories in height, has all the machinery and appliances necessary for the prompt production of every description of crackers and ship-bread. The house was founded in 1844 by Miles Savary, and the corner of Pearl and Nassau streets. In 1857, it came into the hands of David K. Ducker, a son of William Ducker, who was for many years a local Methodist preacher, connected with the Sands Street M. E. Church. Mr. D. K. Ducker had been, for some years, engaged in the flour business, opposite their present cracker factory, prior to 1857. In 1861, the business was removed to its present location. Mr. C. R. Hetfield, originally from Scotch Plains, N. J., came to Brooklyn in 1857, and in the year 1865 became a partner with Mr. Ducker. The firm was D. K. Ducker & Co. till 1879, and then changed to its present title of Hetfield & Ducker. Mr. D. K. Ducker died in 1876, and William M. Ducker, his son, became connected with the business at that time, and an equal partner from 1879. In 1882, R. W.



HETFIELD & DUCKER'S CRACKER MANUFACTORY.

Steele, a native of Jamaica, L. I., who had been in their employ for fifteen years, was given an interest in the business.

From 1844 to 1857, their largest production was about 30 barrels of flour a week (1,560 barrels per year), and they employed 5 or 6 men. Since 1857, it has grown steadily, till it now consumes 150 barrels of flour per day, equal to 900 barrels per week, or 46,800 barrels per year; gives employment to over 200 hands, and turns out from 13,000,000 to 15,000,000 pounds of crackers and ship-bread in the year, of a value of more than \$1,500,000. They send their goods all over the world, and there is but one opinion of the excellence of the manufacture.

Daniel Canty, of 532 Grand street, E. D., is also a cracker baker of fair reputation, who has been engaged in the business about eighteen years, and makes excellent goods. He uses about 3,600 barrels of flour in a year, employs 10 hands, and sends out six delivery wagons. His out-put is probably something like \$100,000.

Louis P. Vogel, of 174 Twelfth street, is also a cracker baker; but we have not been able to obtain any particulars of his business.

The fancy bread bakers are very numerous, and several of them have achieved an excellent reputation. The best houses are also cake bakers. *James Morton* was, for a long time, at the head of this class, and *Anderson & Co.*, *Waite & Co.* (the successors of *Kernan & Co.*), *Thomas Swany*, of 241 Court street, and his son, *Theodore A. Swany*, of 634 Bedford avenue, etc., are among the most prominent members of it.

The cake-bakers are also very numerous, and of every degree of excellence. Many, and, perhaps all, of those we have named as fancy bread bakers, have also a high reputation for their cake; but there are also many others, who conduct their business on a smaller scale,

who have a high local reputation for their cake. Many of these bakers have an annual production not exceeding \$10,000; but their cakes are not the worse for that. To name some of these might seem invidious, since those of equal merit who were omitted might deem themselves wronged. From careful inquiry, we judge that the number of these cake bakers, of excellent local reputation, exceeds 40.

The pastry cooks and cake makers attached to the great hotels and first-

class restaurants, as well as the caterers, of whom there are five or six, are a class by themselves; and while they are really very highly skilled as bakers, they do not affiliate with the bakers generally. Of these, *W. D. C. Boyss*, *J. T. Hanson*, *G. W. Swain, Jr.*, *Wm. Vines*, and *Miss Emily Murray*, and the chefs of *Dieter's*, *Hubel's*, *Gage's*, the *Wall House*, the *Pierrepont House*, *Thompson's*, etc., etc., are those best known to the public.

It remains to speak of the pie bakers. Of the ten or twelve of these, the *Brooklyn Pie Baking Co.* and the *Metropolitan Pie Bakery* are the largest; *John Kobbe* is the manager and principal proprietor of the former, and *John Albohn* of the latter. *Edwin Chenoweth*, *Jacob Enners*, *F. Gramlich*, *Valentine Guthy*, *Caspar Koester*, *Henry Leutz*, *Thomas Lindsay*, *Anton Miltner* and *Louis Volz*, are also largely engaged in this business. It is worthy of notice, that while the pie, in all its dyspepsia-producing varieties, is essentially a Yankee institution, yet all these pie bakers, with a single exception, are Germans.

But these pie bakers do not enjoy a monopoly in the manufacture of pies. Very many of the fancy bread and cake bakers also make pies for their customers, and the quality of these often surpasses those of the professional pie makers.

Summing up now the bread and bakery products, we find that in the wholesale bread and the cracker departments alone, the annual product of not more than nine or ten houses exceeds \$4,000,000, and the number of hands they employ is about 650. Of the remaining 612, probably more than forty do a business of \$20,000 or more, and employ at least eight hands each, making an aggregate of not less than \$850,000, and 325 hands; one hundred and fifty produce \$10,000 or more, and employ at least four hands each, aggregating about \$1,500,000 and 600 hands; of the remainder, not

less than 250 produce \$5,000 or more, and employ two or three hands each, aggregating \$1,250,000 and about 600 hands, and the remaining 162 do a business of from \$2,000 to \$3,000 each, and employ not more than one hand beside their own labor. The aggregate for these would be about \$400,000 and 162 hands. This would make a grand aggregate of \$8,000,000 annual product, and the employment of 2,337 hands. We think no one who has gone carefully over the ground, as we have, can doubt the substantial accuracy of these figures.

SUBSECTION I.—*Confectionery.*

Intimately connected with the bakery business is that of the manufacture and sale of *confectionery*. Some of the fancy bread and cake bakers are confectioners also, and many of the confectioners deal, in a moderate way, in cakes and comfits as well. The census of 1880 reported 104 confectionery manufactories in Brooklyn, having \$236,235 capital, employing 228 hands, paying \$79,477 wages, and producing \$822,843 annually. There were eight confectioners also in the county towns, making 112 in all, and giving a total product of about \$866,000. We doubt if all these were really manufacturing confectioners, but as they probably included the ice cream manufacturers, of whom there are a considerable number, the number may not be overstated. The Brooklyn directory for 1883 gives the names of 505 confectioners and ice cream manufacturers, but we know that more than one-half of these are dealers in confectionery only. It would probably be much too large an estimate to put down the manufacturing confectioners as 200. Some of these do a large business. Among these, the largest house is *Mason, Au & Zollinger*, of 83 Fulton street; while *James Duckworth & Son*, *Huyler*, *James S. Buchanan*, *Henry Josenhans*, *Henry M. Crowell*, *F. C. Smith*, *L. D. Fleming & Co.*, *Herman Giese*, *Charles Mollenhagen*, *George T. Riley* (who is also a fancy baker), *George E. Stevens*, *Frederick Schlobohm*, are all large manufacturers; and among the ice cream makers, who are not general confectioners, are *J. M. Horton* (who, in addition, makes a specialty of Charlotte Russes), *Thomas Dunham*, *Dixon & Wilson*, *Peter Arnaud*, and *Robert Reid*.

The present confectionery and ice cream manufacture in the county employs more than 500 hands and produces over \$1,150,000 annually.

SECTION XXIII.

Distilleries and Breweries.

The distilling and brewing industries of Kings county are of great extent, and their production of very large amount.

The census of 1880 does not report these industries under the head of Manufactures of Twenty Cities, nor

under the county statistics, reserving them for its general and State statistics of distilled and malt liquors, which were kept separate from other manufactures. They do not distinguish between the distilleries and the breweries. By personal application to the census office, we have been able to obtain the following statement of the manufacture in Kings county, in manuscript:—Liquors distilled and malt liquors—42 establishments; capital, \$3,888,500; average number of hands employed, 1,102; wages paid, \$547,594; raw material used, \$2,814,792; annual products, \$4,993,772. We have tried to check these by the reports of the Internal Revenue Office, but, as the revenue district includes Queens and Richmond counties as well as Kings, and the largest distillery in the United States has part of its works in Queens and part in Kings (and, we believe, also, one of its distilling houses in New York city), we have been unable to make any very satisfactory comparison of their figures with those of the Census Office. We have encountered other difficulties also. Both the distillers and brewers are wholly opposed to giving any statistics of their business for publication. The census did not make any distinction between them, though they had the legal power to obtain it; and the task of securing these returns, when attempted by a private citizen, is almost hopeless.

We have, by persistent and protracted effort, succeeded in obtaining information which satisfies us that the capital, the number of hands, and the annual production are each much greater than they were stated to be in the Census report; and that, if they were not understated then, there must have been a wonderful and extraordinary increase, within the last three and a half years, of which we can find no evidence.

Our returns from the DISTILLERIES are not so full as we could wish. There are eight of them, of whom two are reported as having offices in New York city. They are all of large size, but the *Ridgewood Distilling Co.*, which is, we believe, Gaff, Fleischmann & Co.'s Kings County Distillery; *Edward Kane's* extensive distillery in South Brooklyn; *Oscar King & Son*, on First street; *E. D. Fischer Bros.*, in Third avenue; *H. & H. Reiners*, in Stagg street, and *John L. Hasbrouck & Co.*, in Front street, are the largest.

Most of them, and perhaps all, are engaged principally in the production of high proof alcohol, or "high wines," as they are called, for which there is a large market for chemical, medical and manufacturing purposes, as well as for export. Much is sent to France, and a part of it, in the present depressed condition of the wine production there, comes back to us, after a year or so, duly doctored, and bearing the inscriptions, "Pure Old Cognac," or "S. O. P. Brandy, 1838, 1848, or 1858," or some other dates from thirty to fifty years old. Whiskey is not made to any considerable extent, as it can be produced so much more cheaply in the grain growing regions of the West, and genuine rum,

and could be made more profitably in other sections than here. The production of these eight distilleries cannot be ascertained very definitely, but from the best information we can gather, we conclude that they employ between 400 and 500 hands, and that their annual product is not less than \$1,700,000, and perhaps reaches two million dollars.

In regard to the BREWERIES, our knowledge is more definite, though obtained with the greatest difficulty.

There were in Kings county, in January, 1884, thirty-five breweries. One or two had failed, and two or three had changed hands during the preceding year. Of these, eight manufacture *weiss beer*, a very mild beer, containing only from 4 to 6 per cent. of alcohol, and classed by the saloon keepers among the *temperance* drinks. Weiss beer is always sold in bottles, containing a little more than a wine pint. The retail price per bottle, the bottles being returned, is five cents. The wholesale price is, we believe, about 35 cents per dozen. The whole production is not far from 4,500,000 bottles a year, and the annual product may have a value of \$150,000. Of the eight manufacturers, *Henry Deventhal* is the largest, his production exceeding a million of bottles a year. *Anton Manuel* follows; and the two *Margwards*, *F. W. Wille*, *H. Immen*, *John Menninger* and *W. Gunther* succeed in about the order we have named.

Of the remaining 27 breweries, seven manufacture ale of varying quality, one of the seven making lager bier also, and twenty manufacture lager bier exclusively. The prices of both the ale and lager bier vary within certain limits, according to their quality; but, on investigation, we find that \$8 per barrel of 30 gallons is a fair average price. Our returns show that the annual production of the 27 breweries does not vary much from 981,000 barrels, being rather over than under that amount. This would give an aggregate production of \$7,848,000, and adding the weiss beer—\$150,000—a total sum of \$7,998,000, or, in round numbers, \$8,000,000.

This is an enormous advance on the Census reports; for, adding our lowest estimate of the distillery product, which is undoubtedly too low, we have a grand total of \$9,600,000 as against the \$4,993,772 of the Census—just about double. Astonished at this result, we have consulted the men who, from the nature of their business intercourse with the brewers, were most likely to be well informed in regard to their production, and the answer has been in all cases that our figures were too low. We have checked off the production of each brewery very carefully, but with the same result. We cannot, then, doubt the correctness of our estimate.

There are, probably, two reasons for this difference: one, that, despite the authority with which the agents of the census were armed, they were often deceived in regard to the production of manufacturers, and were

particularly liable to be deceived in this matter, where the products were sure to be heavily taxed; the other that, by the introduction of new methods and appliances, of which the refrigerating machine was the most important, the capacity of the breweries has been greatly increased, and their expenses in the manufacture reduced. The ale and lager bier of Kings county have always borne a high reputation, and that of some of its breweries is not surpassed anywhere. This fact has led to an increased demand for their products from other cities and states, and this demand has been met by a larger manufacture. The increase in production has, perhaps, with our rapidly augmenting population, caused a greater home consumption, but much of the new product has been consumed in other states and cities.

The leading brewers of Brooklyn are the *Williamsburgh Brewery*, lager, about 80,000 barrels a year; *Warren G. Abbott*, ale and lager, and *S. Liebmans Sons*, lager, each about 75,000 barrels. These are followed very closely by *Otto Huber*, *H. B. Scharmann & Co.*, *Obermeyer & Liebmans*, the *Boulevard Garden Brewery* and *N. Seitz's Son*, whose portrait and biography grace our pages. Mr. Seitz has a very fine brewery, with all the latest and best appliances. He employs about 50 men, sends out 22 wagons, and keeps twice that number of the gigantic Norman horses, which brewers so much affect, and his lager bier has a very high reputation.

NICHOLAS AND MICHAEL SEITZ.—Nicholas Seitz, a native of Bavaria, came to America in 1843, and was employed for nearly three years by F. & M. Schaeffer, brewers, of New York. In 1846, he established a brewery on Thirteenth street, New York, and carried on a measurably successful business there for a year and a half. During the year 1848, he removed to Williamsburg, and began brewing at the corner of Maujer and Waterbury (late Remsen) streets. His business flourished, and subsequently he removed to a place directly across Maujer street, and later to the site of the brewery now owned by his son, Michael Seitz.

The buildings now in use by Mr. Seitz, his father began to erect in 1866. The establishment is very large of its kind, occupying nineteen lots lying on Waterbury street, and between Maujer and Ten Eyck streets. In 1871, Mr. Seitz transferred the business to his sons, Michael and Joseph, and his son-in-law, Frank X. Bill. In January, 1873, Michael and Joseph Seitz purchased the interest of Mr. Bill, and, five years later, Michael Seitz bought the share of his brother, Joseph, and has since been sole proprietor.

Nicholas Seitz married Catherine Stahl, of New York, and she bore him seven children, named, in the order of their nativity, Michael, Joseph, John, Catharine, Theriasia, Anna and Mary, all of whom are living except John, Catharine and Anna.

Michael Seitz, eldest child of Nicholas and Catharine (Stahl) Seitz, was born in New York, October 16th, 1844, and removed to Williamsburgh with his parents, where he, early in life, attended the public schools, to which his educational advantages were limited. When he was about fourteen years of age, he began to assist about the work in the brewery; and, when he was only seventeen, his father being sick,



Michael Seitz

he assumed and creditably discharged the duties of foreman. On the recovery of his father, he was placed in charge of the brewery as superintendent, and so continued up to and most of the time since he became proprietor. Mr. Seitz's early and long acquaintance with the details of brewing renders him one of the most expert lager beer manufacturers in, or in the vicinity of, New York. The products of his brewery find a ready market and a large sale, and his already very extensive business is constantly increasing.

In August, 1878, Mr. Seitz married Elizabeth Huwer, of Williamsburg, and they have three children, named Mary, Michael and Anna.

Other brewers, of nearly the same rank, are: *Joseph Burger*, *Charles Lipsius*, *Ferdinand Maack*, all lager; *The Leary and Britton Brewing Company*, *William Ulmer* and *Ochs & Lehnert*, each lager; while *Harri Kiefer*, *Leonard & Eppig*, *Joseph Falbert* and *Charles Frese*, each lager, and *Howard & Fuller*, ale, produce somewhat less, though still large manufacturers. Of those whose production ranges from \$100,000 to \$200,000 per year, there are the *Budweiser Brewing Company* and *Mettler Brothers*, lager; and the *Long Island Brewing Company*, *George Mahan* and *Stout & Denison*, ale. Two others produce not more than \$100,000 a year. One of these makes beer and the

other ale. The whole product is fearful to contemplate—nearly a barrel and a half of beer for every man, woman and child in the county. It should be said, indeed, that not less than one-half of this great product is sold to other markets than ours; but, on the other hand, considerable quantities of beer and ale are brought here from New York, Newark, Chicago, St. Louis, Milwaukee, and from Great Britain and Germany.

The census statistics are equally in fault in regard to the number of hands employed in the manufacture. The rule is that, including the drivers of wagons, porters, etc., as well as the workmen engaged directly in brewing, the allowance should be two hands for every thousand barrels of annual product. The weiss beer men exceed this proportion, but the largest ale and lager brewers have brought their machinery to such perfection that they do not quite come up to it. Eighteen hundred is, however, a low estimate of the entire force employed by the brewers; and this, with the 500 hands in the distilleries, gives 2,300 as the entire number of hands in the distilleries and breweries of Kings county—a little more than double the number reported by the census.

SECTION XXIV

Rubber and Elastic Goods.

The manufacture of rubber and elastic goods, though of considerable extent, and embracing many varieties of these goods, has not attained to the magnitude which it has reached in the States of Massachusetts, New Jersey, Rhode Island or Connecticut. It is noteworthy, however, that this manufacture is one which attains its highest productiveness in small cities and towns rather than in the large cities. Only four of the cities of over 100,000 inhabitants report manufactories of rubber goods in the census. These four are: Boston, \$1,095,000 of product; New York, \$1,037,768; Brooklyn, \$922,857; and Chicago, \$35,600. New Brunswick, N. J., Waterbury and Colchester, Conn., two or three of the smaller cities and towns of Massachusetts, as Malden, Springfield, Andover and East Hampton, and the small towns of Rhode Island, produce the greater part of the rubber goods in the United States. The reported production of New York city was only \$115,000 more than that of Brooklyn, and left almost a million for the production of the smaller cities and towns of the state.

The actual production of rubber goods, in Brooklyn and Kings county, is considerably larger than is reported in the census, as we have found was the case with many other manufactures. The census figures are: 6 establishments; \$298,837 capital; 273 hands; \$120,885 wages paid; \$664,335 of material used, and \$922,857 of annual product.

The directory gives the names of twelve establishments, of which one and probably two or three are only dealers in rubber goods, but there are certainly nine and possibly ten manufacturers. Of these, *Mr. Francis H. Holton* seems to have been the pioneer. *Mr. Holton*, whose portrait graces our pages, and whose biography will be found below, removed from Boston to Brooklyn in 1856, and after starting a rubber factory in New York, in that year, removed it to Brooklyn in 1860, and commenced here the manufacture of surgical, medical and stationery articles of rubber. In 1870, *Mr. C. B. Dickinson* became his partner, and in 1874, bought his interest in the business, and has since conducted it at 660 and 662 Atlantic avenue, Brooklyn. *Mr. Holton* immediately started another rubber factory in New York city, and in 1877 removed that to the foot of Adams street, Brooklyn. Both establishments are now doing a large business, *Mr. Holton* employing about one hundred hands, and turning out more than \$200,000 of goods annually, while *Mr. Dickinson's* number of hands and out-put are about the same. Meanwhile other houses have gone into other branches of the manufacture of rubber goods and with remarkable success.

The *Gutta Percha and Rubber Manufacturing Company*, of 30 Third Avenue and 2 Park Place,

N. Y., is a very large manufactory and turns out immense quantities of rubber belting, packing and hose, car springs, vulcanized rubber fabrics, etc. It employs about 150 men, and its annual out-put is about \$300,000.

Bachrach Brothers, of Leonard and Devoe streets, E. D., are largely engaged in the manufacture of rubber clothing and gossamer goods, as are also the *Johnson Rubber Works*, of Flushing avenue, cor. Steuben, and, we believe, also, the *A. H. Smith Manufacturing Company*, of 74 and 76 Ninth street. *Mr. Eugene Doherty*, of 444 First street, E. D., makes hard-rubber goods of all descriptions; and the other two are, we believe, in some branch of the rubber or gossamer goods, in a moderate way. The rubber toy ballons are, it is said, manufactured by some of these houses, and possibly other toys. No rubber shoes, boots, or arctics are made here, nor, so far as we can ascertain, the rubber or gutta percha plates for dentists' use, nor the larger car springs.

The entire number of hands employed in the rubber manufacture at the present time is estimated at about 550; the amount of wages paid, about \$260,000, and the total out-put, about \$1,325,000.

FRANCIS H. HOLTON, President of the F. H. Holton Rubber Company, was born in Northfield, Mass., November 17th, 1831. His parents were Luther and Marcia (Mixer) Holton. The American branch of the family of Holton is descended from one of the name who emigrated from Ipswich, in England, in 1630, and located near Hartford, Conn., whence Francis H. Holton's ancestors removed to Northfield in 1735.

Mr. Holton's educational advantages were very limited, as may be judged from the fact that he began his business career at the age of thirteen, when he went to Boston and was employed in the shoe and rubber store of his uncle, Samuel Holton, in finishing for the market the crude rubber shoes imported for the American trade before they were superseded by those made under the Goodyear patents.

In 1856, *Mr. Holton* removed to New York and was employed as a clerk by a Broadway firm dealing in rubber goods; but he soon resigned his position and engaged in the manufacture of druggists' and stationers' specialties in rubber, opening a factory on Broadway, near Thirty-seventh street.

In 1860, *Mr. Holton* removed his business to Brooklyn, where he had taken up his residence in 1856. In 1868, *Mr. William Gray* became his partner, and, in 1870, sold his interest in the enterprise to *Mr. Charles B. Dickinson*, who, in 1874, bought the entire business of *Mr. Holton*.

At this time *Mr. Holton* established a factory in New York, and in 1877 removed it to Brooklyn, locating at his present site at the foot of Adams street.

The business has grown, from one employing five or six hands in 1860, to such proportions that, in 1883, from eighty to one hundred hands find constant employment. The demand for the wares produced at this establishment is so great that it exceeds the capacity for production, principally owing to the fact that the large factory now in use is inadequate to the necessities of the business; and, with a view to fully meeting the requirements of the trade as to quantity, *Mr. Holton* contemplates a speedy removal to more commodious and advantageous quarters.



F. H. Coates

The enterprise of Mr. Holton is, in some sense, antecedent to any similar one in the city, and though the development of the rubber interest and improvements in rubber manufacture have perhaps exceeded those of any others, Mr. Holton has not only kept abreast of the times, but has led some of his competitors in numerous valuable features of the industry.

In 1854, Mr. Holton married Hannah Maria Blake, of Boston, and has had four children, three of whom are dead, the oldest, Francis H. Holton, Jr., now assisting him in the conduct of this important business.

SECTION XXV.

Manufactured Tobacco, Cigars, Cigarettes and Snuff.

The manufacture of tobacco, for chewing, smoking and snuffs, not including cigars or cigarettes, is a large industry, although conducted in only ten establishments. These ten factories have a capital of \$1,059,890; employ 941 hands (with an average force of 601; pay out \$198,770 wages; use of the raw tobacco, \$931,250; and produce annually \$2,302,703. Some of the figures of the Census Office differ slightly from these, but the aggregates are the same. New York county, from 17 establishments, produces \$4,320,972, not quite twice as much. The manufacture of cigars and cigarettes is not very large in Kings county, being carried on in the small way by numerous producers (341 establishments, employing 923 hands and producing \$977,480 dollars worth of these goods); but in New York, though many of the individual factories are small, the aggregate production is very great; 761 establishments with a capital of \$5,858,448, employing 16,988 hands and paying out \$6,066,455 for wages, using \$8,805,147 of raw materials and producing cigars and cigarettes to the value of \$18,347,108. As these returns are those of the Internal Revenue offices, they are not probably overstated. The great difference in the production of the two counties is said to be due to two causes, viz., that five or six of the largest establishments conduct their manufacture on an immense scale, many hundreds of operatives being employed on the production of a single brand of cigars or cigarettes, and the aggregates being sufficient to supply the jobbing and retail demand of a large part of the country, and a considerable export demand in addition; and in the second place, that the smaller manufacturers, in order to compete with the larger, farm out the manufacture to families and small companies of operatives, in Brooklyn, East New York, Flatbush and elsewhere, they furnishing the tobacco, and the work being done often in hall bedrooms, or living rooms in tenement houses, hovels and shanties; and the finished but unstamped and unlabeled cigars, often fresh from rooms reeking with filth and disease, are delivered at the factory, where they will receive the name of some famous brand, and are put upon the market. The cigars, etc.,

made in this way, are produced at lower cost than those made in larger establishments, but command nearly the same prices. New York is credited with their production, while they are actually manufactured in Kings county. Since the reduction of the revenue tax, a large number of these operatives have emigrated from New York to Kings county, an undesirable addition to the population. The quantity of cigars and cigarettes produced in New York county is more than one-fourth of the entire quantity produced in the whole country, while the manufacture of tobacco in other forms, in New York and Kings counties together is less than one-eighth of the whole amount in the country. The leading houses in the production of chewing and smoking tobacco and snuff, in Kings county, are: *William Haslam & Son*; the *Kellogg Manufacturing Co.*; *Buchanan and Lyall*; *Thomas A. Jones & Son*; *Leporello*; *Arnsberger*; *Sebastian H. Appel*; *Georgel Schaeffer*; *Charles Vogler*; *August Pope*, etc., etc. *Morris Hirsch*, though a large dealer in chewing and smoking tobacco and snuff, does not manufacture these articles very largely; confining his manufacturing mostly to cigars, in which he takes the lead in Kings county. Mr. Hirsch is a native of Austria, born in 1842, and is a practical cigar-maker, having served an apprenticeship at the business in New York city, and subsequently conducted his cigar-making in West street, New York, till 1868, when he bought out the long-established cigar factory of J. J. Blair, at 53-55 Fulton street, which he still continues. He employs about 50 cigar-makers and contemplates enlarging his place, that he may extend his business. He manufactures over two millions of cigars, and purchases many thousands beside, for his three stores. His annual production exceeds \$150,000, and his sales are much larger.

Among the other leading cigar-makers are: *Harrod Brothers*, of 18 Broadway, E. D., whose factory is 25x75 feet and four stories high, and who employ 35 hands or more and produce cigars to the amount of about \$120,000; *Reynolds, Fink & Son*, at 39 Fulton street, who are retailers of cigars and tobacco, but have a factory at the rear of their store, in which they employ from ten to fifteen hands, and turn out from \$35,000 to \$40,000 per annum; *Andrew Buitel*, of 474 Fifth avenue, also a retailer, but who has a cigar factory in rear of his store, where he employs a number of hands in the manufacture of fine cigars; the *Eckford Cigar Manufactory*, 53 Greenpoint avenue, E. D.; *Charles H. Eggert & Bro.*, of Kingston and Atlantic avenues; *Morris M. Grodjinski*, of 425 Fulton street; *Edwin A. Hathaway*, of 129 Grand street; *John N. Grunwald*, of Court street; *Herman Seidenberg*, 401 Fulton street, etc., etc.

The business directory reports 727 cigar dealers and manufacturers, and 123 tobaccoists, or 850 in all; not more than one-half of these are manufacturers, to any considerable extent; this would be an increase of 74

establishments were 140. The 400 employe, however, that 100 hands produced 100,000 cases and turn out over 500,000 of different cases and still annually; the amount having materially increased since the introduction of the day.

SECTION XXVI.

Watches and Clocks.

SUBSECTION I.—*Watch Cases.*

This manufacture produces a large amount from a few establishments, but the cost of material is so great that the margin of profit is not large. The census of 1880 reported only 4 establishments in Brooklyn, with an investment of \$100,000 as capital, employing 205 hands, paying \$210,814 wages, using \$717,177 of material, and producing annually \$1,109,100 of watch cases, gold, silver and nickel.

We must confess, that we have very little confidence in these figures. In 1870 there were no watch case manufacturers reported in Kings county, though some of our manufacturers have been here more than twenty years. The Brooklyn Business Directory for 1883-4, gives the names of nine, some of whom have been in business here for eight or ten years or more to our personal knowledge. Three or four may possibly have started since 1880. The names of these manufacturers of watch cases are: *The Brooklyn Watch Case Co.; James A. Carlier; Courvoisier, Wilcox & Co.; Jean- & Schickel; Martin & Flammant; John M. Grogan; Charles Schwitter; Theob. & Co., and Gustave Wilhem.* In 1870 the census reported 33 establishments in New York city, producing \$1,754,500 of watch cases. The census of 1880 reports none in that city, although the great house of Robbins & Appleton, the New York branch of the Waltham Watch Co., turn out about \$2,000,000 worth of watch cases annually from their factory in Bond street, and two or three other large manufacturers are known to us personally. The wonder is that several of the Brooklyn manufacturers, who have offices in New York, were not reckoned as New York manufacturers.

There are two or three difficulties in the way of the production of watch cases, which go far to make the business unprofitable. The largest producers of watches in this country, as far as their very extensive works will permit, prefer to case their own watch movements, because, especially with stem-winders, there is required so nice an adjustment of the watch to the case, that even a slight variation in the size, or in the fitting of the stem, might result speedily in a broken main-spring or a derangement of the action of the watch. One of the great companies (the Elgin), it is true, makes no cases; but it is by no means certain that the reputation of its watches has not been impaired thereby. The foreign watches, which are sent here as movements to

be cased, are of later years (especially the Swiss and French watches) of, so variable sizes, that it is rarely the case that a case here, unless made expressly for it, fits it exactly.

Then there is the large amount of capital required, and the fierce competition in all styles of cases, which has reduced the profit to a very narrow margin. The demand for these cases, especially for the silver and nickel, and to some extent for the gold, is very large and constantly increasing, but when the manufacturers and the importers of cheap movements are advertising them in nickel cases at \$5 retail, and in silver (not very pure silver, we presume), at from \$6 to \$8, if the movements have any value in money, it may readily be imagined that there is not a very large profit left for the watch case maker. The gold cases do not offer a much larger percentage of margin. Gold watches for men's use (only 8 or 10 karats fine, it is true), are offered as low as \$20, with movements that will go for a time (if they are carried), and perhaps for even a smaller sum, at retail; while ladies' gold watches at \$15 to \$20, are very abundant. The catering for these cheap and worthless wares is demoralizing, and not all our manufacturers will engage in it.

There are, of course, honest watch movements, and honest gold and silver cases in which they are fitted, and our Brooklyn watch case manufacturers do their fair share in making them, but we fear it is true, as we were told by a watch manufacturer in New York, that there are fifty cheap watches and watch cases, to one good one.

The industry in Brooklyn, as nearly as can be ascertained, employs about 450 workmen, pays about \$355,000 wages, uses over \$1,100,000 material, and produces about \$1,560,000 of watch cases. We doubt if the net profits of the manufacturers exceed six per cent.

SUBSECTION II.—*The Making and Repairing of Watches and Jewelry.*

Perhaps we should make this title, "The Repairing of Watches and Jewelry," dropping the idea of "making" either watches or jewelry entirely. There are certainly no manufactories of watches here, on any scale, large or small; and there are no large manufactories of jewelry. A single house in the Eastern District, *The Reibel and Scheribold Manufacturing Co.* have, within two years past, made an attempt on a small scale to manufacture some articles of jewelry, mainly, we believe, for their own retail sales. A few of the repairing shops may produce some articles of jewelry of special construction for customers, but this is hardly manufacturing. The census of 1880 gives us the following statistics on this subject: "Watch and clock repairing," 109 establishments; \$82,668 capital; 152 hands employed; \$76,171 wages paid; \$53,319 materials, and \$221,723 annual product. This is simply absurd.

The number of dealers in watches and jewelry, to which some of them add silverware and optical goods, is much larger than this—177, according to the business directory of 1883-84, or, making allowance for duplicated names, about 169. But not one of these can properly be called a manufacturer of either watches or jewelry. Many of these are large establishments, and do a fine business; but they are merchants and dealers, not manufacturers. Not twenty of them are capable of taking a fine watch to pieces and repairing it successfully, and very many are incapable even of cleaning or repairing the finer descriptions of clocks. The repairing of jewelry is, in the best houses, attended to on the premises, but many of the shops send their repairing, if it is at all difficult, to repair shops on the back streets, or in private dwellings where a skillful though not prosperous workman attends to it. Watch cleaning and repairing (generally the insertion of a duplicated piece for a broken one, in the American watches), is also conducted in these out-of-the-way repair shops. The manufacture and sale of optical goods, especially of spectacles, eye glasses, and opera glasses, is also a part of the business of some of these dealers in watches and jewelry; but the manufacture, except of the gold frames, is generally executed by the opticians, of whom there are ten or eleven in the county.

The whole estimated product of the manufacture and repair of watches, jewelry, and optical goods, so far as they can be recognized as manufacturing industries, does not probably vary much from the census footings, which are certainly large enough; but the number who are entitled to the name of manufacturers, even in this small way, does not exceed thirty at the most.

SUBSECTION III.—Clocks.

In Mr. Frothingham's preliminary report of the census of Brooklyn manufactures, he specifies among the miscellaneous industries, two *clock factories*, but, in accordance with the rule of the census office, gives no separate statement of their statistics. As he afterwards explained to the writer, one of these was a very small enterprise, which was soon abandoned; while the other was the large and extensive manufactory of the *Ansonia Clock Co.*

Since 1880, there has been no attempt to establish any other clock factory in Kings county, so that this remains the only manufactory of its class in the city or county.

The manufacture of clocks in the United States is an industry of considerable amount, but the number of manufactories is small. The census reports 22 establishments, having a capital of \$2,474,900; employing 3,940 hands, paying \$1,622,693 wages; using \$1,908,411 of material, and producing clocks annually of the value of \$4,110,267. Of these, 15 were in Con-

necticut (but only five of these were of considerable size), the whole reporting \$1,816,400 capital; employing 2,370 hands; paying \$1,200,071 wages; using \$1,209,611 material, and producing annually clocks valued at \$3,016,117. It is safe to say that more than nine-tenths of this product was from the five leading factories.

New York reported four establishments, with \$625,000 capital; employing 1,292 hands; paying \$382,620 wages; using \$508,650 of material, and producing \$1,037,350 in value, of clocks. We are unable to ascertain where the other three factories in the State of New York are or were; but as the published statement of the Ansonia Clock Co. at that time was that their capital was \$1,000,000; the number of hands employed, 1,325; and the annual production upwards of one million dollars, there does not seem to have been much left for the other three companies.

Of the other three factories not in New York or Connecticut, one is or was in Newark, and one, or possibly two in Boston, but as the aggregate product of the three, according to the census, could not have exceeded \$56,200, they were too small to be of much consequence.

The *Ansonia Clock Company* was originally established at Ansonia, Conn., being one of several enterprises growing out of the Ansonia Brass and Copper Company, of Messrs. Phelps, Dodge & Co., and maintained by the capital of that great house. It was organized as a separate company in 1877, but the stockholders were partners or heads of departments in the Phelps, Dodge & Co. house. Soon after, however, there was consolidated with it the interest of Mr. Henry J. Davies, a successful manufacturer of clocks and specialties in New York city, and the new company went into operation in January, 1878, at Ansonia. Their business so greatly increased that at the end of the year it was deemed necessary to erect another and much larger factory, and it was decided to build this in Brooklyn, where the company had purchased a site, consisting of an entire block on Twelfth and Thirteenth streets and Seventh avenue. The immense factory erected here was finished and occupied in May, 1879, and its appointments were of the best in every respect. They were employing 1,175 hands here and 150 more at Ansonia, where the first stages of the manufacture were prepared, and were turning out about 3,000 clocks a day, when their factory in Brooklyn was burned to the ground, October 27, 1880. It was immediately rebuilt, with a greater amount of room, and all the latest improvements of machinery and appliances, and the entire force at Ansonia was transferred to Brooklyn. The company claims that it is now the largest clock factory in the world. They turn out 3,000 clocks in a day, of all kinds, and are also engaged in the manufacture of bronze figures and in the production of those cut and engraved bronze and brass casings for

clocks, heretofore produced only in France. In the quality of these clocks as time-keepers, justice compels us to say they have not yet quite attained to the excellence of some of the other eminent clock manufacturers. They may do so in time; there seems to be no good reason why they should not.

SECTION XXVII.

Leather:—Dressed Skins and Skivers; Belting, etc.; Saddlery and Harness; Trunks and Valises; Leather Goods; Leather Decorations.

Leather and its manufactures, other than those of boots and shoes, are not correctly represented in the census of 1880 on Brooklyn manufactures. The only entries there are: *Leather—Dressed Skins*: 20 establishments; \$691,650 capital; 563 hands; \$248,932 wages; \$1,258,407 material; \$1,755,144 annual product. *Saddlery and Harness*: 88 establishments; \$105,877 capital; 185 hands; \$73,437 wages; \$151,848 materials; \$300,425 annual product. *Trunks and Valises*: 7 establishments; \$89,800 capital; 93 hands; \$32,138 wages; \$88,249 material; \$146,344 annual product.

Mr. Frothingham had another item, *Leather Goods*: 11 establishments; \$138,075 capital; 120 hands; \$34,782 wages; \$244,800 material used, and \$341,367 annual product. His other items agreed with those of the Census Office, and they, in their supreme wisdom, struck out *Leather Goods* entirely, as unworthy of notice. We should say that the item *Leather—Dressed skins*, had, in Mr. Frothingham's report, the title *Leather—Morocco*, but with the same figures as that of the census office, as were both the other items, *Saddlery and Harness* and *Trunks and Valises*. We have then, in the census report, the following aggregates of the leather manufacture, aside from boots and shoes, in Brooklyn: 115 establishments; \$887,327 capital; 841 hands; \$354,507 wages; \$1,498,504 material, and \$2,201,913 of annual product. Adding Mr. Frothingham's item of *Leather Goods*, we have 126 establishments; \$1,025,402 capital; 961 hands; \$389,289 wages; \$743,304 material, and \$2,543,280 of annual product.

We have said that these statistics of the census, even with Mr. Frothingham's added items, failed to give correctly the real facts in regard to this industry. The number of establishments may or may not be correct; we think that compared with the present it is too large; but the other items might safely be doubled without coming up to the present production and business of the various branches of this great industry. Then, also, it gives no adequate idea of the great variety and the distinct branches of the business. The term "dressed skins" does not apply to anything like all the leather manufactures of Brooklyn. There are a few tanners in the county, but they do but little, and that mostly in tanning and dressing sheep-skins. To them the "dressed

skins" description might apply. There is not, so far as we can learn, any sole leather manufactured in the county, and very little heavy harness leather. Neither is there much morocco, in the ordinary sense of the word. The largest manufacturers produce skivers, hatters' linings and leathers, book-binders' leather, sheep-roan, calf, Cape and Turkey morocco, kid, for shoe-makers' and glovers' use, calf, also for shoe-makers' use, and, to some extent, shoe uppers, and some goat and other skins for boots and shoes. Several of these establishments are very large, and their products go all over the world. Their merits are such as to secure for them a constant demand; though most of the local dealers prefer to purchase these goods in the New York market, often buying what has been sent over there, from Kings county, rather than deal with the manufacturers directly. There are half a dozen of these large manufacturers, not one of whom would acknowledge that his business was the manufacture of "dressed skins." But there are a number of others, to whom the epithet is still more inapplicable. There has sprung up in connection with the great expansion of the boot and shoe trade, though wholly distinct from it and carried on independently, a large business in the manufacture of shoe uppers and boot tops. These manufacturers neither tan nor dress leather. Some of them deal in leather, jobbing in a small way; but their principal business is the production of shoe uppers and boot tops. Others again manufacture the soles and insoles of boots and shoes; and some, though perhaps none in Kings county, from the scraps of leather and hemp and cement, produce a compound called *leatheroid*, which is largely used for insoles and for the outer soles of cheap shoes, and is coming to be employed considerably by the book-binders.

Still another class manufacture embossed and stamped leather, for furniture and decorative purposes. This work properly belongs to fine arts, but it is, nevertheless, leather-working.

Others, still, manufacture from leather, and either partially or wholly from leather produced in Brooklyn, fancy leather goods, trunks, valises, portmanteaus, satchels, ladies' reticules, purses and pocket-books. This is also a leather manufacture, but is very inadequately represented under "trunks and valises" in the census.

There are, still further, the large saddlery and harness trade, which as being more obvious to the enumerators, is probably a little more accurately represented.

Let us consider these different branches of the great leather industry in their order and we will afterward sum up the totals of the various leather manufacturers.

SUBSECTION I.—*Skivers*.

The manufacture of skivers * (and of sheep, calf and goat skins, connected with it, in some establishments),

* "Skivers" are the "pelts" *i.e.*, skins of certain breeds of sheep, which have been split once or twice. The split skins of larger animals are called "splits" or split leather.

has many subdivisions. There are hatters' leather; book-binders' skivers, book-binders' roan; library sheep; American calf; French calf; American morocco; cape morocco; goat skin or turkey morocco; Russia for books, pocket-books, etc. (this is a split cowhide); pocket-book and reticule leather, and linings; some of the former are of alligator skin; shoe-linings; shoe-uppers of calf skin, sheep or goat skin, kid and pebble goat, and sheep-skin morocco, for ladies' shoes, &c., &c.

For the book-binders' use, the skivers are better than the entire skin; will last as long; look as well or better than the whole skin; are put on more easily and neatly and render the book lighter, while they cost only a little more than half as much.

The Russia leather, now manufactured here, though from a different class of skins, and by a different process, is also split for many purposes for which it is used. The goat skins, for book-binders' use, are not split, the leather being usually not quite so thick as the sheep or calf skins; and, as much of it is used for what is known as half binding, a somewhat thicker material is required.

Genuine goat skin being the most costly material used, both in book-binding and shoe-making, a cheap substitute for it is very largely manufactured from sheep skin, which, when neatly grained and new, is an excellent imitation, not to be easily detected, except by experts, but the leather is softer and less durable.

The book-binders' calf is, through late improvements, produced of a quality equal to the best English.

Skivers are also largely used for linings of boots and shoes, in the boot and shoe trade, and for linings, partitions, &c., in the fancy leather goods trade.

Skivers are not produced in this country, but are imported from England. The reasons of this are not far to seek. A sheep skin, to split well, must be from a coarse-wooled sheep of large size and must have considerable thickness, so as to admit of being easily divided. The South Down, Leicestershire, Lancashire, Lincolnshire and other large-framed sheep are suitable for this purpose; their wool is a combing, not a felting wool. The South American sheep and many of the Australian sheep belong to the same class. The pelts of Canadian sheep are also very well adapted to the purpose of splitting. The sheep of the United States, being generally reared for their wool, do not furnish skins fit for the production of skivers.

The machine for splitting sheep skins is an English invention, and still protected by an English patent, while those for splitting larger hides or skins are of American invention. Both do their work exceedingly well, but the English machine is the more delicate of the two.

The skins, deprived of their wool and dried, but not tanned, are shipped from England to the manufacturers. They are first put into a brine or pickle to soften them,

then washed and plunged in vats filled, or partly filled, with an infusion of Sicilian sumac. In this solution they are kept for 48 hours, being frequently handled, and when taken out they are completely turned. The Sicilian sumac proves much better in practical working than the Virginian or any other American sumac, both as containing its tannin in a more readily soluble condition, and as possessing, in a higher degree than most other articles yielding tannin, the mordant property which makes the colors, with which the skins are subsequently dyed, fast. The other articles used in tanning heavier skins, such as the mezquite bark, hard-hack, the Australian wattle, or the infusions or extracts of oak, hemlock and other barks, do not answer as good a purpose for these skins. Occasionally, when the Sicilian sumac is scarce and high, some terra japonica is mixed with it in the vats, but the result is not so good. After being drawn from the sumac vats, the tanned skins are hung up and exposed to the pure air, that they may be oxygenized, or, as some of our chemists would say, "ozoned." They are next brushed by a rapidly revolving brush, to remove all dust, and are now ready for the coloring, which is applied in shallow tubs, a dozen or more skins being placed in each tub, which contains always the same color. The colors are logwood and other blacks, some combined with iron, redwood, Brazil wood, fustic, madder, and for the more delicate tints of red, blue, purple, &c., the aniline colors. They are handled constantly in these dye tubs, and, when colored, are rubbed down with a broad piece of hardwood, all the superfluous color discharged, and the skins are piled upon a bench or horse, and are removed to the drying-room, where each skin is stretched to its full tension upon an upright drying board, and dried by steam heat, some hundreds or thousands of skins being subjected to this process at once. The heat is increased gradually to about 110° or 120° F. They are next taken to the polishing and marking room. The polishing is done by a burnisher driven by steam power over a sloping surface. They are now generally divided into halves; and if intended for the book-binder or for shoe linings, &c., they are ready to be packed, unless the book-binder desires to have them lined or marked. For the hatters' use, as well as for linings of reticules, &c., &c., however, they still require to be lined, ruled or checked. For these purposes, they are put upon large cylinders, and creased, lined or checked by the appropriate tool, which is moved forward automatically at each revolution from $\frac{5}{16}$ to $\frac{1}{32}$ of an inch, according to the design to be worked out. When this process is completed, they are ready to be packed for the market.

The leading manufacturers of *skivers* are the great house of *J. S. Rockwell & Co.*, who occupy nearly the whole block bounded by Flushing and Classon avenues, Wallabout street and the Williamsburgh road. Their buildings on this large tract are four stories in height, and have 700 feet front by 40 feet width. Their large

and powerful engines receive their steam from four ~~boilers, consuming 1,000 tons of coal annually.~~ They use about 300 tons of Sicilian sumac annually, as well as other tanning materials. The house have also two tanneries in Broome County, N. Y., known as the "Yorkshire tanneries," and the leather and skins produced there are all tanned with hemlock bark. The sumac is used for tanning split sheep skins or skivers. The dealers in these skins there are known as "fell-mongers." We have already explained why these are preferred, as well as the treatment they undergo to make them finished skivers. The split skins are divided into "fleshes"—the side next the flesh, and "grains" or "skivers"—the side next the wool. The house use also a considerable number of these large sheep skins whole (not split) which are technically known as "roans;" goat, kid, calf and other skins, and some kip and horse hide, are also tanned by this great establishment at its tanneries in Broome county.

Their specialties are book-binders' and hatters' skivers, as well as linings of boots and shoes, roans, calf, goat and other bookbinders' leather, and some kip and calf for the boot and shoe trade.

They employ 275 hands, and turn out from 1,200 to 1,500 dozen finished skins per week, or about 930,000 skins a year, besides other leather. Their total out-put exceeds \$1,500,000 a year, and has done so for many years.*

Mr. *Elihu Dwight*, whose works are also on Flushing avenue, is engaged in nearly the same lines of goods with Messrs. Rockwell & Co., though he confines himself mostly to two classes of skivers, the "grains" for hatters' leathers, and the "fleshes" for childrens' shoes and shoe linings. He turns out from 125 to 150 dozen finished skins a week, but in busy seasons can increase his production to 225 to 250 dozen weekly. He employs from 30 to 40 hands. *Frederick Horst* also manufactures skivers, but mainly for shoe and boot linings. *H. M. Warren & Son*, *Maurice S. Kerrihan*, *James Chunan & Co.*, and *George F. Sullivan*, tan and dress entire sheep skins for shoe-makers' and book-binders' use. There are also a number of small houses who manufacture a few entire skins, and sell them to the speculating dealers.

Messrs. *James Chunan & Co.*, *Adolph Fleischauer*,

* This business was started in 1841, seventy years ago, at Colebrook, later at Coxsack, by *Frederick Rockwell*, father of the late J. S. Rockwell. In 1853 J. S. Rockwell came to New York, as the representative of the house, and the next year was admitted into partnership with the *Belting and Lace Leather Co.* Then *Frederick Rockwell* died in 1855. The *Belting and Lace Leather Co.* was in 1856 at Wardlaw-street, and has since been at the corner of 4th and 5th streets. Mr. J. S. Rockwell was a man of great executive ability, and was a far more successful enterprise. The business greatly prospered under his wise management. He died January 1, 1884, and the next year his wife and daughter, his only child, died. *S. G. Bland*, partner, died in February 1884, and Mr. *George Whiting*, a brother-in-law and partner, died Nov. 25, 1883. There are now none of the original firm of J. S. Rockwell & Co. surviving, except Mr. *John T. Rockwell*, a brother of J. S. Rockwell. Mr. *S. A. Smith* is the Superintendent of the factory, and Mr. *W. L. B. Story*, General Manager.

the *Gane Brothers*, and *William Garner*, are reported as tanners, and probably all do something in the way of tanning and dressing sheep and goat skins, and, perhaps, also calf skins. There are very few, if any, cow or horse hides tanned in the county, and, it is said, no glove leather of any description.

The total number of manufacturers and dressers of skivers and entire sheep skins, and the small tanners, aggregates not over 18; the amount of capital is uncertain, but certainly exceeds \$1,200,000; the number of hands is not less than 625; the amount of wages paid is about \$330,000, and the total product not far from \$2,800,000.

SUBSECTION II.—*Belting and Lace Leather.*

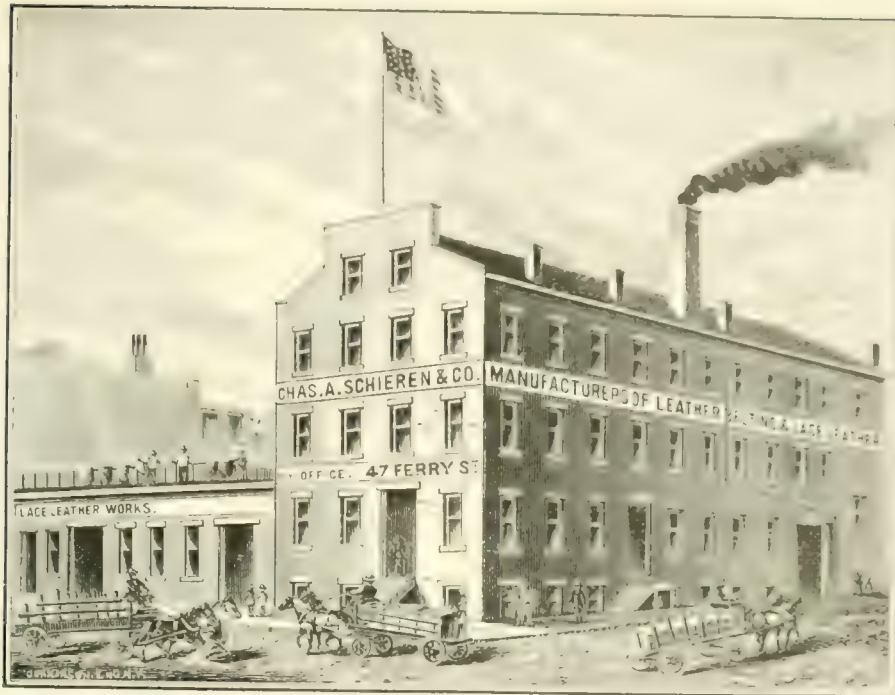
Of the 22 manufactories of leather belting and hose in the State of New York, whose annual product is reported in the census as \$2,365,139, only two are in Kings county, and the belting factory of one of these has been only removed into the county, from New York, in the spring of 1884. The lace-leather factory of that house has been here for some years. The other belting factory has been here for several years. We are doubtful if either of them manufacture hose, though in the list of miscellaneous industries of Brooklyn, "belting and hose" are named.

The two houses were Messrs. *Charles A. Schieren & Co.*, of 13th street and Third avenue, and *Stephen Bullard & Co.*, 26 First street, E. D., but the latter sold out their factory January 1, 1884.

In New York city there are eleven belting and hose factories, whose united production is \$1,699,729. One, if not two, of these, properly belong to Brooklyn.

Messrs. *Schieren & Co.*'s works were established in New York in 1868, and now rank as one of the largest and most extensive belt manufactories in the United States. They have branch houses in Boston and Philadelphia, and have special agents at New Orleans, San Francisco, and Hamburg, Germany, and representatives in every large manufacturing district, in our own and other countries. Their belting is shipped to almost every part of the globe.

Their leather belting is known as the "Bull Brand," and has attained a high reputation for its excellence. It is made from pure oak-tanned leather, tanned in those regions in Pennsylvania, Maryland and West Virginia, where the best oak bark is to be obtained. None but domestic steer hides are used. After the leather is tanned it is brought to their New York factory, and the solid part curried and cut up into belting; the balance (offal) is used for shoe purposes. The house used about 40,000 hides in 1883. The Brooklyn works were at first established only for the purpose of tanning and preparing lace-leather, which is used for sewing belting together. They were established in 1879, and are the only works of the kind in the city of Brooklyn or its vicinity, and have met with great



CHARLES A. SCHIEREN & CO'S MANUFACTORY.

success. For the production of lace leather peculiar material and special processes are required. The hides for this purpose are imported from Calcutta, and being so near the great Brooklyn docks, they can obtain them without expensive inland transportation. When received, they require very careful handling. They are first unhaired with lime, and then laid away in tan-vats, filled with a strong solution of gambier (a variety of catechu), until they are thoroughly tanned; after tanning they are finished with neats-foot and castor oils, which make the skins very pliable and tough. The lace-leather works are erected on a new and improved plan, and are considered as models. They employ only skilled mechanics, who earn high wages. The proprietors, who are all Brooklyn men, have been so much gratified with the success of this manufactory, that

they propose, in the near future, to remove their New York leather belt factory to the same site, and their new buildings for that, together with the present lace-leather factory, will cover an acre of space.*

Messrs. *Stephen Ballou & Co.*, of 26 First street, E. D., the only other house engaged in the manufacture of belting in Kings county, sold out their entire business on the first of January, 1884, to the Union Belting Company. They had been a long time in the business, employed 28 hands and reported an annual out-put of \$220,000. We believe their successors intend to enlarge the works, but their plans have not yet been made public.

The leather belting business in Kings county, for 1883, may be summed up as employing about 125 hands and yielding a product of from \$700,000 to \$750,000.

*The present firm of Chas. A. Schieren & Co. was formed in 1882, and consists of Charles A. Schieren, Jacob R. Stine, and Fred. A. M. Burrell.

Chas. A. Schieren, the founder of the business, was born in Germany, and came to Brooklyn in 1856. He was 11 years of age the very day that he landed with his parents in this country. He had received a good common school education, and applied himself studiously to master the English language, which he accomplished. He was at first engaged with his father in the cigar business; but had formed a dislike to it, and after attaining his majority, obtained, in 1864, a situation as salesman in the leather belting establishment of Phil. F. Pasquay, at 25 Spruce street, New York. By close application and energy he soon acquainted himself with the business, especially the making of leather belting, so that when his employer died, in 1866, he was placed at the head of the concern. The administrators did not wish to continue the business, and it was sold to other parties, with whom he staid until April, 1868, when he founded the present house with a very moderate capital, the savings of the four years' salary, and built up, in a comparatively short time, one of the leading leather belting houses in this country. He continued alone until April, 1882. Mr. Schieren, aside from business, gave much of his time and means to Sunday-schools and charitable organizations. He was a member of the

Brooklyn S. S. Union for many years, and was a member of the Anniversary Committee, or Grand Marshal of the May parade. He represented the Lutheran interest in that board, and is yet an active member of St. Mary's.

His liberality placed that congregation upon a solid financial basis. He was Superintendent of the Sunday school several years, also had charge of a mission to the colored people, and was instrumental in inducing him to withdraw from his cherished work.

Mr. Stine came to this country from Sweden in 1845, and engaged in the leather trade, and was associated with his brother in the morocco business; but for the past 10 years has been associated with Mr. Schieren in several capacities, until 1882, when he entered into partnership with him.

Mr. Stine is also an active worker in the Nostrand avenue M. E. Church, and has been treasurer of the congregation for several years. He is also an ardent worker in the Sabbath school.

Fred. A. M. Burrell came to this country from Sweden, and landed in Brooklyn in 1875. His father, the late Rev. J. Hagen Burrell, was a member of the S. M. Church, and was employed by Mr. Schieren in 1877, and by his energy and fidelity worked

SUBSECTION III.—*Saddlery and Harness-Making.*

This branch of the leather manufacture, like the boot and shoe trade, includes a large number of manufacturers whose individual products are small, and their number of employees, few. The census report of 88 establishments, with 185 hands (248 as the largest number at one time), and an annual product of \$300,425, gives less than three hands, and not quite \$3,400 of annual product to each establishment. The number of saddle and harness makers is somewhat larger than the truth, for there were only 75 in 1882, of whom 7 had dropped out in 1883, though 15 new ones had taken their places, making the latter year number 83.

Two other facts indicated very clearly that the business was of small extent; there were only three firms in 1882, all the rest being individual shops; of these, two were brothers, who were in partnership, and one of these gave up business at the end of the year; in 1883, there were but two firms, and two of the shops had women for proprietors, though the business is a heavy one and not as appropriate for female labor as some others. Judging from the names, three-fourths of the whole were of foreign birth and of nine or ten different nationalities.

There is a moderate demand for saddles, and a very steady one for harness and repairs; but the business is not one which offers a chance of a large success, even to an enterprising man, unless he can find an outlet for his products beyond the bounds of the city and county; and this business is monopolized by the large manufacturers of Newark, N. J., New Haven and Hartford, Conn., and New York city. The southern trade in saddles and harness is large, though, it has not increased so rapidly as that of the west. The greater part of this is supplied from the eastern cities, but our Kings county manufacturers have not made any progress in commanding it.

The largest houses in this business here are said to be *Jordan Brothers*, of 63 Lafayette avenue, and *Herring and Camp*, of 26 Flatbush avenue, but we doubt whether either house has an annual outlet, exceeding \$25,000 or \$30,000. *James Van Vleet*, of 1751 Fulton avenue, and *George W. Bungay, Jr.*, 432 Fifth avenue, also do a fair local business. The census statement of the product of this business, \$300,425, was probably not far out of the way.

SUBSECTION IV.—*Trunks, Portmanteaus, Valises, Satchels, Reticules and Fancy Leather Goods.*

This subsection might, perhaps, with propriety, be divided, inasmuch as the manufacture of trunks, portmanteaus, valises, etc., is entirely distinct from that of fancy leather goods, the latter including not only the finer qualities of the ladies' reticules, pocket-books, and purses, but ladies' belts and girdles, leather fans, jewel cases, opera-glass cases, toilet boxes, shaving cases, surgeons' and physicians' pocket cases, etc., etc.

The census reported seven manufacturers of trunks, valises, &c. The technical name for valises, satchels, reticules, &c., is "*bags*." The business directory, for 1883, reports fifteen, but a careful inquiry reveals the following facts in regard to them. Ten of the fifteen do not manufacture, but purchase their stock in New York or elsewhere. Three of these keep one or possibly two men in their stores, who repair trunks and bags; and one of these and perhaps two, manufacture in a small way elsewhere, but not in Kings county. One has removed his factory to New York city. One is a "bag" maker and does not make or sell trunks. Three manufacture trunks, but not bags. All retail these goods, though one of the trunk-makers and the "bag" maker also sell their goods at wholesale.

Of the three trunk-makers, *Mr. James M. Spear* is much the largest, having a factory at 327 Adams street, besides his retail store at 311 Fulton street. He employs about 40 men or in the busiest time, 50. The other houses, in their workmen for repairing and all, probably make up the 93 or thereabouts reported in the census.

The other two trunk manufacturers, *Messrs. Hand and Plant*, and *Mr. George W. McCarthy* do a smaller business than *Mr. Spear*, but are fair and honorable manufacturers. The annual product of the trunk manufacture as conducted in Kings county does not probably exceed \$125,000 and including the "bag" manufacturer, *Mr. D. S. Hammond*, who, besides his factory, 28 Cumberland street, has ware-rooms at 108 Chambers street, New York, does not probably much exceed \$150,000.

There has been a materially increased consumption of these goods here, within three years past, especially in the line of travelling bags, satchels, reticules, &c.; but the increase has not been in their production here, but in the abundant supply furnished from other markets, especially from Newark, N. J., which has very large manufactories of every description of leather goods, and also from New York city, which has large trunk, bag, and pocket-book factories.

Of the pocket-book manufactories, some of whom also manufacture the fashionable bags, reticules, &c., now so much worn by ladies, we find it impossible to gain any very definite information. The census does not give any report of them; the business directory for 1883 gives the names of twelve, all either Germans or Scandinavians, but there are probably twice the number. None of them are located on business streets, but have their workshops in their dwellings, and these on those streets where rents and property are very low, and as they do not require a large stock of the raw material, or much machinery, their work is often done in hall bedrooms, and much of it by children's fingers. *Mr. Frothingham's* report, thrown out entirely by the Census Office, of 120 hands and \$341,367 annual product, was certainly not above the mark. There remains one establishment, not noted in the Census, that of *Messrs.*

C. H. Walker & Co., leather embossers, to be noticed. Messrs. Walker & Co. have not been long in the business, but they make all descriptions of stamped and embossed leather for the decoration of furniture, and upholstery trimmings, chair coverings, etc. They use for these purposes the finer qualities of sole leather, Russia leather, French and American calf skins, etc., etc. Their leather is mostly American, though little, and perhaps none of it, of Brooklyn production. Their work is artistic and tasteful, and finds a ready sale among the finer upholsterers of New York city. The embossing is in gold and colors as well as plain. They also emboss to some extent silk velvets, plushes, mohairs, etc. They employ ten or twelve hands, and their out-put is not less than \$50,000 and is rapidly increasing.

SUBSECTION V.—*Leather, Shoe-uppers and Linings.*

There are eight or ten houses who are engaged in the production of boot-legs and shoe-uppers and linings. They are not shoe-makers; very few, if any, of them could make a shoe if they tried, but they have their patterns of all the sizes, and all the breadths of each size. Most of them furnish their own material, and cut, trim and line these uppers and boot-legs for the shoe manufacturers, furnishing them of any required quality at so much per dozen or hundred. The cutter is generally a man and a skilled workman, but several girls are employed, who paste, trim, bind and stitch these uppers. These houses are all Germans, and they generally add to their income by dealing in a moderate way in sole and upper leather, morocco and skivers. Their leather may be, and some of it doubtless is, manufactured in Brooklyn, but they procure it always in New York. The amount of the out-put of these houses can only be roughly estimated, for a German manufacturer, whether large or small, has the greatest possible aversion to giving figures in regard to his business. In New York, the Census Office recognized this business as "boot and shoe uppers," and reported 18 establishments with a product of \$180,702, or about \$10,000 each. The boot and shoe manufacturers, who are the sole purchasers of these articles, say that the estimate is too low, and that those shops average not less than \$15,000 each. This would give a total out-put of \$150,000 or more, aside from the trade in sole and upper leather, which is not manufacturing, and is therefore not within the scope of our inquiries. They employ about 50 hands. Let us now sum up the total production of leather and leather goods, except boots and shoes, so far as that production belongs to Kings county. We find the footings of production of all these classes, \$4,740,792, and of the number of hands employed, 1,150.

SECTION XXVIII.

The Boot and Shoe Manufacture.

The manufacture of boots and shoes is a large industry in Kings county; and while the 546 establish-

ments reported in the census must include not less than 500 small shops, doing only custom work and repairing, and having an annual product of not more than \$1,000 to \$2,000, and some of them even less than \$1,000, there are a considerable number of large manufacturers whose annual products make up the greater part of the grand aggregate of \$1,819,792. The inventions of the past twenty years have completely revolutionized the business of shoe-making. American leather is now fully equal to French, English, or Russian leather, in beauty, durability, and finish; while its price is materially lower than the foreign article at the present time, and the machines for making boots and shoes have reached such perfection that the finest and most durable shoes can be furnished at prices which would have been impossible twenty years ago. The machines for making and crimping boot legs and uppers, the cutting, stamping, sewing, fitting and buttonhole-making machines, the pegging machines, and above all the McKay sole-sewing machine, and its successors, have brought about this revolution. Most of these machines are now free, the patents having expired from two to five years since; but the boot or shoe is not now, except in the rural districts, made by one man; the journeyman shoe-maker, with his "kit" of tools on his back, looking for a job, either in a shoe-maker's shop or doing the shoe-making and repairing for the farmer's family, is not now a recognized mechanic; the division of labor has been carried so far in this business, that there are very few men under 35 years of age who could cut, fit and finish a boot or shoe, from the uncut leather to the final touches, to save their lives. As a consequence, the journeyman shoe-maker must either consent to devote his whole time to producing a particular part of the boot or shoe, content himself with being a repairer or cobbler, turn his attention to some other business, or join the great army of tramps. As shoe-makers are, beyond most other mechanics, intelligent and thoughtful men, they generally adopt the first or third of these alternatives. Moreover, the boot or shoe is not, now, to any great extent, even in what are called hand-made shoes, a hand product. In the large establishments, and even in those smaller ones of which we have already spoken, as manufacturers of boot-legs and shoe-uppers, the boot-legs and the uppers are struck out with great precision, in quantities, by guillotine knife dies which are prepared, for each size or half size and every width, and then, after trimming, shaving and pasting which is done by hand, they are stitched, bound, seamed, and if they are to be buttoned, the button holes are made by machines; they are stamped and pressed into shape by machines; the further lining, trimming, straps and every part is fitted by machinery; the soles, insoles, welts (where welts are used) are pressed, solidified and prepared by machines, and pegged or sewed by machines at such speed that, from one to one hundred can be completed in a day by each machine. The fine work

The *Mackay* machine and its improvements, on ladies' shoes, and the best grades of men's boots and shoes, is really superior to the best hand-work. There are no better boots or shoes made than those of the Burt, Mundell, Edwards, Taskers, the Harding Co., the Whitehouse Shoe Co., Geo. A. Smith and other manufacturers; and keen competition has reduced the price of these excellent goods to a very reasonable figure.

The other machines employed in the manufacture greatly facilitate the production of fine goods. Even the pegged boots and shoes made by the best pegging machines are superior in finish, and perhaps equal in durability, to the sewed boots and shoes of forty years ago. But below these, there are large quantities of inferior boots and shoes made by machinery, largely by convict labor, of cheap and poor material, the soles frequently of leatheroid, or paper, in part, and the uppers of refuse leather, or cloth. They are sold at very low prices, but nothing so utterly worthless, can ever be really cheap. Of course, great quantities of this trash are sold in Kings county, but, except some of the boots and shoes made at the penitentiary, and there by a Massachusetts firm, they are not, to any considerable extent, produced here.

The manufacture of boots and shoes for the wholesale trade, has only lately been largely conducted here. Until recently, many of the manufacturers have had a good retail and custom trade, and their first object was to supply that, though in certain styles they have done a fair jobbing business. This is the case with Messrs. *E. D. Burt & Co.*, who, beside being the agents for the sale of *E. C. Burt's* ladies shoes and *Henry Burt's* gentlemen's boots and shoes, manufacture also largely on their own account, both for their own sales, and for a jobbing trade; with *Mundell & Co.*, *F. Edwards & Co.* and the *Harris Flexura Shoe Co.*, who make shoes of special patterns or patents, and do a jobbing as well as a retail business. Messrs. *H. & F. H. Tasker* have large salesrooms in Brooklyn and Jersey City and in addition to their fine retail trade, manufacture not only for their own sales, but for wholesale trade. We think, however, that their factory is not in Kings county. The *Harding Shoe Co.* and the *Whitehouse Shoe Co.*, both have factories as well as retail stores, but we think their factories are elsewhere. The shoe stores generally, except those mentioned above, do very little in the way of manufacturing, though most of the larger ones have from two to a dozen men employed on repairs or special custom work. There are, however, many manufacturers who are not also retailers; perhaps the largest of these are *Brennan and Kelly*, whose factory is on Grand and South First streets, E. D., and is four stories in height; they employ 200 hands, run 150 machines by steam power, and turn out over 300,000 pairs of shoes in a year, representing an out-put of at least \$400,000; they commenced business in 1878.

Maurice Ryan, of 9-17 Hope street, E. D., commenced business in Brooklyn in 1880; he confines himself to the manufacture of women's and children's shoes, employs 125 hands, pays wages annually to the amount of \$62,000, has a capital of \$35,000, and an annual product of \$225,000. *Robert Dix & Son*, in the Pond's Extract Building, 146 First street, E. D., were established in 1853 in North Second street, removed to New York in 1867, and returned to Brooklyn in May, 1883; they make exclusively ladies' and children's fine shoes, employ 125 hands, pay \$75,000 wages, and have an annual product of \$150,000 or more. *Smith & Martin*, Tenth and Ainslie streets, E. D., are large manufacturers of ladies', misses' and children's shoes; they commenced business in 1868 as *J. Smith & Son*, succeeded by *Smith & Martin*, January, 1880; they have a capital employed in the business of \$30,000, employ 50 hands, pay \$21,000 in wages, and produce annually \$100,000, or more.

Michael Dowling, established in 1860, near Pineapple street, as *M. & P. Dowling*, removed to New York, and returned to Brooklyn in the summer of 1883; he makes ladies' and children's shoes of medium grade; employs 35 hands; his annual product is about \$70,000. *William Lowrie & Son*, in Pond's Extract Building, 146-150 First street, E. D., removed to Brooklyn from N. Y. in May, 1883, make only ladies' fine shoes; employ 25 hands; pay about \$12,000 wages; out-put \$50,000 or more. *George A. Smith*, 349 Adams street, makes women's and children's shoes, very fine work; he commenced business in New York, in 1869, as one of the firm of *Hamilton, Pratt & Co.*, and is now the only representative of the firm; came to Brooklyn in 1883; he employs 60 hands, and produces annually over \$100,000 of goods. He had 14 years' experience with *E. C. Burt*, before starting for himself. *Baker & Ferguson*, of 1123 Broadway, E. D., and *Hatfield & Rumph*, of 1125 Broadway, E. D., both nearly opposite Grove street, manufacture in a moderate way. They employ about 15 hands each, and have an out-put of \$30,000 to \$35,000 each.

James White, 28 and 30 Adelphi street, has been manufacturing in Brooklyn since 1874; he makes women's and misses' shoes; employs 100 hands; uses steam engine, 15 horse power; production \$150,000 or more; he came from England in 1855. Among manufacturers of ladies', misses, and children's shoes, are: *Wm. Strusz*, 16 and 18 Dunham Place, E. D., who employs steam-power and 40 hands; business, \$100,000. *John Ennis*, 584 Grand street, E. D., established 1865; employs 100 hands; annual sales \$100,000; weekly wages \$800. Other manufacturers are: *Wm. Nagle*, 17 South Third street, E. D., employs 50 hands, and business \$40,000; *Hammond & Owers*, 143 Fourth street, E. D., employ 50 hands, and do a business of about \$80,000. *L. Hooper*, 100 South Sixth street, 25 hands; doing a business of \$30,000. *James Walsh*, established 1866, in North Seventh street; employs 25 hands; business, \$40,000. *J. W. McCube*, 191 Fulton street, estab-



William Jackson

lished 1884; 30 hands; does a business of \$40,000 per year. *George & Fitzgerald*, 50 Fulton street; started 1852 in Grand street, E. D., moved to present location in 1877; employ 32 hands, and do a business of \$30,000 yearly in boys' and youths' shoes. *Mayer & Newman*, 227 Ellery street; established 1883, employ 10 hands, with an average output of \$12,000.

The *Bay State Shoe Co.*, or their successors, who have large labor contracts at the penitentiary, also turn out a very large amount of work, mostly pegged, and of the cheaper qualities. There are one or two other firms who are engaged in manufacturing heavy work for laborers and for the southern trade.

Aside from these, there are, perhaps, fifteen or twenty shoe-makers who do only custom work and by measure. Most of them have some specialty, one making boots for horse jockeys, &c.; another, boots for telegraph linemen; another, boots which fit anatomically; another, special boots and shoes for the lame, for deformed feet, or those encumbered with bunions or nodes; others, for persons with tender feet, etc., etc. Most of these do also ordinary custom work. They employ usually from three to ten workmen, and some of them gain a reputation in their specialties, and acquire a moderate fortune. Yet these very men are no exceptions to the rule which we laid down, in the commencement of this article; they do not manufacture the shoes or boots throughout in their workshops. They may show a customer pieces of calf skin or morocco, from which he may select the quality he desires to have made into the shoes he orders; but that leather or morocco is carefully matched at the factories for shoe uppers; the soles are bought all prepared, and while he shapes and stretches the boot or shoe according to the required form, on his own or his customer's last, the chances are 99 out of 100 that the boots or shoes are sewed on a McKay Sole Sewing Machine, and finished on some other machine. Boots or shoes cannot be made wholly by hand, or by one man, without loss, even though at a large advance from ordinary prices.

The directory gives the names of 652 boot and shoe makers and manufacturers, as distinguished from boot and shoe dealers, in the county, an increase of a little more than 100 since 1880. The statistics of Brooklyn alone then were 546 establishments; \$311,835 capital; 1,194 hands (1,496 largest number employed at one time); \$502,834 paid in wages; \$852,168 of material, and \$1,819,993 of annual product. The increase in the number of establishments, the large product from those establishments which were not then in existence, or, at most, only just starting, and the greatly increased population, warrant the belief that the business is now, at least, 30 per cent. larger than in 1880; and, if any dependence can be placed upon the census statistics, would lead to the conclusion that the present number of hands is not far from 1,800; the amount of wages paid about \$656,000; the amount of material used about

\$1,120,000, and the annual product not far from \$3,000,000. Our belief is, from a careful examination, that the total out-put considerably exceeds these figures, though there has been a very decided increase in prices within the past three years. That the business might be, and ought to be, much larger than it is, is our firm conviction; for Brooklyn and Kings county are very favorably situated for manufacturing boots and shoes on a large scale. In this connection, we give the biography and portrait of Mr. ALANSON TRASK, founder of the *Bay State Shoe and Leather Manufacturing Company*, above referred to, and who has been, for fifty years, an esteemed resident of Brooklyn.

ALANSON TRASK is a lineal descendant of Captain William Trask, who was at Nainkeag, now Salem, Mass., when John Endicott arrived from Weymouth, England, in 1628, by the ship *Abigail*, with a colony of Puritan emigrants. Captain Trask was of great assistance to Endicott in those early days of privation and hardship. An early writer has said: "Captain William Trask was to the Massachusetts Colony, what Captain Miles Standish was to the Plymouth Colony."

On October 19th, 1639, William Trask was made a freeman. In 1636 he was chosen captain, and from 1635 to 1666 he represented Salem in the General Court. In 1637, he commanded the expedition against the Pequot Indians, the valiant Richard Davenport being his lieutenant. Captain Trask's will bears date May 15th, 1666, and he died not long afterwards, and was buried under arms, leaving two sons and three daughters.

ALANSON TRASK is of the sixth generation from Captain William Trask. He was born in Millbury, Worcester county, Mass., in 1808, and came to New York in 1826. In 1834 he was married to Sarah E. Marquand, and in 1844 took up his residence in Brooklyn, where he has since lived.

In the year 1833, he went into the jobbing business of boots and shoes, in New York city, as a member of the firm of Wessons & Trask, which was subsequently changed to A. & A. G. Trask. He did business some fifteen years in Maiden Lane, and then removed to Warren street. The manufacture of boots and shoes was begun about 1865. Mr. Alanson Trask was instrumental in organizing the *Bay State Shoe and Leather Manufacturing Company*. This firm had manufactories in several States of the Union, and it has grown to be the most important company of the kind in this country.

At the time of Mr. Trask's removal to Brooklyn, the city was a village, and he has watched its growth with the greatest interest, and aided in its development, during the past half century. He identified himself with its benevolent and charitable institutions, and was early connected with the *City Tract Society* (predecessor of the *Female Tract Mission and Tract Society*), the *Brooklyn Dispensary*, the *Home for Friendless Women and Children*, the *Old Men's Home*, and the *Brooklyn Young Men's Christian Association*. He has for some time been prominently connected with the *Brooklyn House-Saving Fund*.

SECTION XXIX.

Window Blinds and Shades.

The census of 1880 gives the following statistics, under the title "Window-Blind and Shade" (Brooklyn establishments, 40; capital, \$100,000; hands, 140; wages, \$22,171; material, \$2,000; annual product, \$30,000).

Mr. Frothingham's preliminary report, with more regard to the facts given the following statistics: Establishments, 12; capital, \$2,100,000; number of hands, 163; wages, \$71,799; material, \$204,705; annual product, \$117,000.

There are, at least, four different articles known under the names of window blinds and shades, viz.: First, the wooden slat blinds, either inside or outside of our windows, and which form one item of the "sash, doors and blinds," so extensively manufactured over all the Northern States; these are decidedly *not* what this item in the census could have meant. Second, the wire-cloth screens or shades, not properly called blinds, so commonly used in windows in summer. We do not think these could have been intended by the Census Office, and yet we cannot be certain. They come properly under "wire work" and "woven wire" in this work. Third, the window shades and curtains of the wall-paper manufacturers, which might, perhaps, by courtesy, be called window blinds, inasmuch as they keep out the light. These are treated of, under "Wall Papers and Paper Hangings." Fourth, "window shades" proper, curtains of white Hollands, or of colored linen, or of cloth painted in oils, with gilt bands or stripes; or with stripes of other bright oil colors; or landscapes in oil; or water-colors, India ink, &c.; of graceful and artistic designs, and either transparent or opaque. These last are probably what the Census Office intended; but if so, they were wide of the mark, as to the number of the establishments or the extent of the business.

There are indeed, not twelve, but at least sixty establishments, which manufacture the white and colored Hollands curtains, and deal in tassels, shade and picture cord, etc., etc. This is an item in the business of every upholsterer, carpet dealer, painters' shop, and most of the furniture dealers, but is only *one* item of a multifarious business, and cannot be severed from their other business. It would be much more appropriate to single out window hangings and drapery, one item of the upholsterers' business, and give the statistics of it as a distinct business. The directory puts down thirteen or fourteen of these window shade men, some of them carpet dealers, some upholsterers, and others painters, but it might have just as easily increased the number to fifty.

There are, however, two firms, and so far as we have been able to ascertain, only two in the county, who manufacture the "transparent and opaque window shades, of which we have spoken. These are *Jay C. Wemple & Co.*, of 121 Fourth avenue, and *Andrew Barricklo*, of Hicks street, between Warren and Baltic streets (until the night of Feb. 26, 1884, when his factory and its contents were destroyed by fire).

The idea which these shades were intended to develop was that of a curtain, which should exclude the strong sunlight, and yet should present to the eye both from the inside and outside, a pleasing and artistic

view, a landscape, or noted church, abbey, or public building, either in colors or mezzotint, and one which would be durable as well as beautiful. This idea was worked out from observation and protracted experiment, by Mr. Jay C. Wemple, beginning in 1840, with the cotton cloth dipped in glue water, and with rude designs drawn on it with India ink, and gradually perfected by giving the cloth used a coating of oil, turpentine and beeswax, which made it firm, yet translucent, and yet gave a basis on which oil colors could be painted or printed. By the application of a modified chromotype process, these curtains can now be made of exquisite designs, in black and white or in colors, and with or without gold bands, and at prices so reasonable as to be within the reach of persons in very moderate circumstances.

The industry did not emerge from its experimental stage until after 1845, and for the next twenty years its growth was moderate, but it is now a well established and constantly improving and increasing business. Mr. Wemple has now a capital of \$200,000 invested in it, employs from 150 to 200 hands, and reports an annual production of over \$300,000. His only competitor, Mr. Andrew Barricklo, was formerly in Sedgwick street, but his factory there was burned about four years ago, the materials used being very inflammable; he then removed to Hicks street, where he has just been burned out again. His goods are of the same quality with Messrs. Wemple & Co.'s, but his production was not so large, though it was increasing. He employed about 90 hands, and turned out from \$180,000 to \$200,000 of goods annually. Both firms, we believe, made also those articles—lamp shades, with designs printed on this prepared cloth—which have attracted so much attention. They also furnished, where desired, the white and colored Hollands for curtains, with all fixtures, table oil cloths, etc., etc. These two establishments, then, employ about 250 hands, and produce not less than \$500,000 of goods—larger amounts, both in employees and products, than the census attributes to its mythical twelve manufacturers of "window blinds and shades."

The amount of production of the white and colored Hollands curtains, fixtures and trimmings, cannot be definitely ascertained, but we may approximate it in this wise: There are not less than 60 houses who make this an item of their business; if each house averaged only a set of these shades a week (a set is from 15 to 20 curtains, according to the size of the house), this would amount to \$30 to \$40 a week—to \$1,560 to \$2,080 a year, or for the whole, from \$94,000 to \$124,000 a year. This is undoubtedly below the actual product. This would give for the window blinds, curtains and shades of these materials, an aggregate of \$600,000 or more.

Lace curtains and the lam'brequins, silk hangings, tassels, and metallic or gilt-wood mountings, and bands

for them, as well as for mantel draperies, portières, etc., belong to the upholsterers' art, and have been treated of under upholstery. Of the other window blinds, shades and curtains, we have treated under their appropriate heads.

SECTION XXX.

Cooperage.

Cooperage is an important manufacture. The census statistics give 42 establishments, with \$913,700 capital, employing 1,547 hands, paying \$595,010 in wages, using \$1,583,987 of raw material, and producing \$2,937,262 of barrels, casks, &c. The number of establishments is the same as is reported in the Brooklyn Directory for 1882, but as far as we can ascertain these are all independent cooper shops, some of them doing a large business, but not connected with the large sugar refineries, distilleries, and breweries, which, for the most part, manufacture their own barrels, casks and kegs. The cooperage department of *Havenmeyer & Elder's* refinery alone, has a capacity for the production of 8,000 sugar barrels a day, and actually produces, in ordinary seasons from 4,000 to 5,000 barrels daily; and *De Castro & Donner, the Brooklyn Sugar Refining Co., Moller, Sierck & Co., the Livingston Steam Refinery*, and the *Hamilton Avenue Refinery*, probably produce at least 10,000 barrels more, every working day. The great distilleries and breweries require casks and kegs of peculiar form and construction, and they prefer to make them on the premises. These three industries, and the petroleum refiners, are the largest consumers of barrels, casks and kegs, and it would be a very low estimate which put their united production below \$2,000,000. The flour trade does not use so many barrels as formerly; a large proportion of its products are put up in stout paper bags of different capacities, and but a small part of the barrels they use are new; teams in their employ, visiting all the bakeries, the larger groceries, etc., and buying all the flour barrels they can find, at a standard price of 18 or 20 cents per barrel; these are repaired in the cooper shops, and made to do good service in the flour trade. The provision trade use a good many barrels, but the lard, hams, bacon, &c., are put up in tins or in boxes, and hence the comparative demand for barrels is less than formerly. The fruit, potato and vegetable trade use many barrels, though these branches of trade are not so extensively carried on in Kings county as in the fruit districts; but most of their barrels are old flour barrels, and not always coopered. Cider barrels, soap barrels, lime, plaster and hydraulic cement barrels, are not manufactured to any considerable extent in Kings county, as the expense of transportation requires them to be produced nearer the places where they are used. We conclude, then, that including the barrels, etc., manufactured by the large manufacturers for their own use, the annual

production of cooperage cannot fall below \$4,600,000. The Superintendent of Havemeyer and Fiske's cooperage establishment is, or was, Mr. Lowell M. Parker. Of the independent coopers, *Paul Weidmann*, whose portrait graces the following page, is, we believe, considerably the largest; the others who are most noteworthy are: *Patrick Dalton*, 381 Third street, E. D.; *Bremen & Colligan*, 349 Fifth street, E. D.; *Stephen F. Sherthand & Brother*; *Henry Johnson*, N. & H. O'Donnell, J. & W. Mutterer (keeps all sorts); *Paulsen & Eger*, North 11th and 12d streets; *John Carver*, 112 South 2nd street; *Michael Baker*; *Henry Heims*; *Dillon's Sons*; *R. A. Roberts & Co.*; *H. Waydell & Co.*; *B. F. Briggs*; *James Goodwin*, 72 North 13th street; *Samuel Wandell*, 75 North Third street; *M. H. Duane*, 698 Willoughby avenue; *Peter Bennett*, 245 Van Brunt street, etc., etc.

Most of the larger coopers, aside from their manufacture of barrels, half barrels or kegs, manufacture or deal in sugar shooks, casks and staves, heading and hoops, and some of them make a specialty of repairing second-hand barrels.

PAUL WEIDMANN, well and widely known in connection with the cooperage interest in Brooklyn, was born in Nuber auerbach, near Zweibrucken, Rhein Pfalz, Bavaria, May 15, 1830, and came to America in March, 1854, and was employed about six months by a brewer in New York. Later he worked about a year in one of the old Williamsburgh breweries, and for a year as a cooper in Cincinnati and vicinity. Returning east, he was employed in New York and Williamsburgh as a journeyman cooper until 1859, when he opened a small cooper's shop of his own in the rear of an old building on North First street, near Second. A few years later he removed his then greatly increased business to South Twelfth street, where the Havemeyer sugar refinery now is, and it was located there till the property embracing his site was purchased by the Havemeyers, and converted to their use. He then purchased the lot on North First street, where he had first begun business on his own account, and occupied entirely the buildings, one room of which had previously been sufficient for the demands of his business. Later, he removed to North First, between Second and Third streets, where he had a large establishment for the time, but which his growing business necessitated his abandoning, on account of lack of room and other facilities, which he obtained in 1874, at his present location on North Third street, where he bought a large factory, to which he was compelled to build an addition, and near which he has erected other buildings, until he now has one, 100x125 feet, six stories high; one, 50x125 feet, two stories high, and another, 100x125 feet, four stories high, adjacent to which is a capacious yard. His business, which affords employment to many workmen, is one of the largest of its kind in the city, and in its management, Mr. Weidmann is assisted by his sons, Paul Weidmann, Jr., and Frederick Weidmann. Mr. Weidmann was married in 1860, to a daughter of Bavaria, but a resident of New York, by whom he has two children living. While yet working as a journeyman cooper, Mr. Weidmann established a small fancy store which his wife managed till 1865, when he sold it to a German baker, and took up on a firm footing, which insured its after success. His wares include new sugar, flour and syrup barrels, half-barrels, kegs, &c., and he has been extensively engaged in



W. Newman

second hand barrels and casks and staves, heading and hoops. His factory and warehouse are located at 85 to 109 North Third street, and 94 to 104 North First street, and he has a yard and wharf at the foot of North Sixth street.

SECTION XXXI.

Clothing: Men's; Women's; Shirts.

The *clothing trade*, in its various branches, is a very large industry in Kings county; large, not only in the amount made for our Brooklyn manufacturers, but still larger in the amount produced here for New York houses.

We are at loss to understand the clothing statistics furnished by the census. The compendium of the tenth census states the number of establishments engaged in manufacturing men's clothing as 328. If this number was meant to include all the tailors, it was altogether too small; for they number 716 in the city and about 24 in the county towns, or 740 in all. But it is not usual to count every tailor, or indeed, the tailors generally, as manufacturers; though, in a sense, a part of them are so. If, on the contrary, it was intended to include all the manufacturers of ready-made clothing, it was very much too large, for, including all the dealers in ready-made clothing, there are only 150; and of

these, less than one-half manufacture their goods here, whatever they may do elsewhere. Several of the larger of these houses have their factories and cutting shops elsewhere, and the goods are only brought here to be sold. This is especially true of such houses as Baldwin, A. J. Nutting & Company, and many others. Some, of course, do manufacture here, and a larger number than is generally supposed. The largest of these is, undoubtedly, *Smith, Gray & Co.*, whose extensive stores, factories and warehouses occupy so large a space on Broadway and Fourth street, E. D., and Manhattan and Greenpoint avenues, Greenpoint. In their specialty of boys' and children's clothing, this house is the largest, as it was the first, in the United States. It is now fifty years since the present senior partner of this firm—whose portrait and biography are among the most precious contributions to the gallery of worthies in our work—commenced the business of making boys' clothing in New York city, prompted thereto by his firm conviction that such garments, if properly made, would find a ready sale. He was himself an accomplished tailor, cutter and fitter, and his goods were soon largely in demand. Mr. Allen Gray, the second partner of the present firm, added to the popularity of this branch of business by originating



Edward Smith

the best set of graded patterns for boys' clothing, which had ever been produced. Mr. Smith removed several times in New York and had built up in twenty-seven years of active and honorable toil a very extensive wholesale trade, largely with the south; when, at the commencement of the late civil war, he found himself subjected to the loss of many hundreds of thousands of dollars, by the indisposition and in many cases, the inability of his southern customers to pay, he withdrew from business, gathering together the wreck of his fortune. It is not often the case that a man, past fifty years of age, who has lost so large a fortune, succeeds in retrieving his fortune and winning a still larger one; but this was one of the rare exceptions. In 1864, in partnership with his brother-in-law, Mr. Allen Gray, Mr. Smith opened a retail clothing store of small extent on Fourth street, Williamsburgh. But so popular had their goods been, before the war, that old customers rallied round them and besought them to manufacture boys' clothing for them. And so it happened, that before the close of the war in 1865 they had been compelled to establish a manufactory on Broadway, E. D., and removed their retail store to that street in 1868. Each enlargement only opened the way for another, and in addition to a branch factory at Greenpoint, 48x100, and four stories high, and buildings on Broadway, 100x100, seven stories in height, they built an immense factory in Fourth street, and are now about erecting another imposing and extensive structure on the corner of Broadway and Fourth street, E. D. They have now three departments of their manufactures, the wholesale trade, the retail trade, and custom work. Over 3,000 adults are on their pay-roll; and their weekly disbursements for wages alone reach \$30,000 or more, making more than \$1,600,000 for wages annually. Their annual production is probably greater than that of any other firm of manufacturers in Brooklyn, except the great sugar refiners and perhaps one or two of the petroleum houses. They do not, by any means, confine themselves to boys' and children's clothing, but make and maintain a full line in all departments of their business. The present firm consists of five partners, the infusion of younger blood having increased its efficiency.

EDWARD SMITH.—One of the representative self-made men of Brooklyn is Mr. Edward Smith, resident at No. 99 Bedford avenue. A son of Gershom B. and Temperance (Sheffield) Smith, he was born in Norwalk, Conn., December 19th, 1816, and his early life was spent on his father's farm.

As subsequent events have proved, Mr. Smith was not intended by nature to be an agriculturist, and he seems to have recognized this as a fact at a very tender age; for, when only fifteen years old, he left home and secured a situation as errand boy in a New York grocery store, and was employed in that and other humble capacities, with different grocery firms in that city, for about two years. Next he solicited his father to permit him to learn the tailors' trade, and was apprenticed to a tailor of Ridgefield, Conn. At the expiration of a year his instructor went out of business, and young

Smith having, in that short time, acquired a considerable knowledge of the trade, returned to New York and worked as a journeyman until 1832, when he was compelled to leave the city on account of the outbreak of the cholera. Just at that point in his career he had engaged a competent person to instruct him in the art of cutting, but was prevented from learning by his sudden departure for home. Not, notwithstanding, he daily practiced the cutting of clothing, and in a short time obtained a good theoretical knowledge of cutting.

After the abatement of the plague, Mr. Smith returned to New York, and, though he had never yet actually cut a garment, engaged as cutter with a large fur store he had formerly worked as a journeyman, and filled the position successfully and satisfactorily. In January, 1833, with the assistance of his father, he went into business as a clothier on Chatham street, between Pearl and Baxter streets, and in conducting his trade soon discovered that there was a lack of boys' clothing in New York, and, believing that nice and well-made garments, in various sizes, for boys, would meet with a ready sale he got up an assortment of such goods, and was so successful with it that he continued in this line and became the first manufacturer of boys' clothing of any prominence in the city. In 1836, he removed his establishment to Fulton street, and, about 1843, requiring more room, to William street, below Maiden Lane, where he embarked quite successfully in the wholesale trade. For some years the trade of the city had been gradually concentrating on the west side, and about 1847 Mr. Smith removed his business to Barclay street, at the corner of Church. Five years later he located on Warren street, and, after two years, removed thence to Broadway, near Leonard street. From this time on his business rapidly assumed larger proportions, growing steadily until 1861, when he retired on account of embarrassments arising from the unsettled condition, caused by the war for the union, of a southern trade which, during years of unabated growth, had attained to hundreds of thousands of dollars.

In 1864, Mr. Smith resumed business, on a limited scale, in Williamsburgh, in company with his brother-in-law, Mr. Allen Gray, opening a retail store on Fourth street. So popular had been Mr. Smith's goods among his former customers that many of them solicited the new firm to manufacture for them their stock of boys' clothing. The demand for their work increased so rapidly that before the close of the war, the firm established a manufactory on Broadway, Williamsburgh, and removed their store to that street in 1868. In 1870, they built and occupied their present large Broadway store. Their extensive store in Greenpoint was opened in their then new building in 1877. In 1881, the firm first occupied their extensive factory on Fourth street, in connection with which there is a third store.

It is with just pride that Mr. Smith refers to the fact that he was the projector of what is now the largest manufactory of boys' clothing in the United States, and probably in the world. At this time, the firm of Smith & Gray consists of Messrs. Edward Smith, Allen Gray, W. G. H. Randolph, Willard F. Smith and Warren E. Smith, the two last mentioned being sons of the senior member; and the active members are Messrs. W. G. H. Randolph, who superintends the purchase of materials and the manufacture of stock; Willard F. Smith, who supervises the retail department of the business, and Warren E. Smith, travelling and wholesale representative of the house. As large as are Messrs. Smith & Gray's facilities for manufacture, they are not sufficient to supply the immense demand for their goods, and the firm has recently purchased the Washington Hall property, at the

corner of Fulton street, and will soon erect upon it a large six-story building, with iron front, for occupancy as a store and factory, where, with enlarged facilities, they will concentrate their business and engage more extensively than ever before in the manufacture, and in both the wholesale and retail trade in clothing; their wholesale trade, as heretofore, to be confined chiefly to boys' clothing, while in their retail department they will carry a large stock of both men's and boys' clothing of all descriptions. In all Brooklyn there is not a more useful business. Not less than 3,000 hands find daily employment with Messrs. Smith & Gray, who disburse thousands of dollars weekly, which goes to aid the general prosperity of the city by its gradual distribution through all of the various avenues of trade.

Mr. Smith has been twice married, and has three sons and three daughters. He is no politician, but takes a lively interest in all matters of national or municipal importance, and he has been a willing and liberal contributor to various charitable objects and toward many useful improvements.

Next to Smith, Gray & Co., though with a long interval between, is the house of *McKeon & Todd*, 110-116 Broadway, corner 4th street, E. D.; men's, boys' and children's clothing. This firm was established in 1878; gives employment to 1,500 persons. Mr. McKeon was formerly with Smith, Gray & Co., jobbers in New York. Mr. Todd started in the business some 18 years ago. *M. Rosenberg & Son*, 43 and 45 Fulton street, established in 1868, erected their present fine building in 1878, and the firm name was changed January, 1882, to *A. Rosenberg*; they employ 3 cutters and 25 hands, and have an annual out-put of from \$75,000 to \$100,000. *Adolph Ketchum*, 266 and 210 Fulton street, manufactures men's, boys' and children's clothing; they were established at No. 260, in 1866, employ 200 hands, and sell largely at wholesale; Mr. Ketchum is an Austrian, and came to the United States in 1856.

Next in order come the *tailors*, those large houses which, confining themselves exclusively to custom work, are yet doing a comparatively large business, exclusively in supplying suits made to measure. Most of these men are dealers also, keeping on hand an assortment of choice goods for the use and wear of their customers, which they make up themselves; in other words, they are "merchant tailors." We have seen that Smith, Gray & Co., like some other of the large clothing houses, keep up a large custom department, and do a fine business with customers of the best class. A large house like this has a manifest advantage over the small "merchant" tailors, in being able to obtain a greater variety of suit goods, and at much lower prices. It was formerly said of Brooks Brothers, and some of the other manufacturers of very fine clothing, that their goods were of such excellent quality, and so admirably made, that many of the "merchant tailors," who had rich Southern customers, would take their orders for complete suits, to be delivered the next day; allow them to select their cloths, take their measure, and then go to these great houses, match the goods, applying their

measures and buy the goods ready made, and send them with the bill, on which a very large profit was made, to the customer at the time appointed. The customers of our Brooklyn tailors would hardly be satisfied with such an arrangement; and though it might sometimes prove successful, the risk would be very great.

We think *James B. Healy*, of 205 Montague street, is probably entitled to the leading place among our "merchant tailors." He has been in business for 20 years, has a large store and stock, and keeps 35 tailors employed constantly in custom work. His out-put is very large, though we cannot give the exact figures. *Godfrey Rossberg*, of 282 and 284 Fulton street; *D. Pyzer*, of 385 Myrtle avenue; and *Robert Raphael*, of 464 Fulton street, probably follow; while *James Porter*, of 288 Fulton street; *William Strauss & Co.*, 431 Grand street; *Westin & Kreinbrink*, of 141 Flatbush avenue; *William Voss*, 32 Myrtle avenue; *J. V. Dubernell*, of 333 and 335 Fulton avenue; *R. & J. Donahue*, of 331 Washington street; *D. E. Johnston*, of 36 Fifth avenue; *H. P. Hansen*, of 60 Bond street; and *Friedrich Kron*, of 744 Fulton, are all doing a large custom business. Many of the tailor shops connected with the cheap clothing trade also do a large amount of business, the greater part of which is in the hands of Germans and Hebrews. We are unable to give any estimate of the amount of this business.

The remainder of the business of making and repairing men's clothing is conducted in small tailors' shops, where the tailor does his work himself, with usually one or two women, or, possibly, a single male apprentice or journeyman to assist him. Most of these establishments do not turn out more than \$2,000 or \$2,500 worth of work in a year, and many even less than \$2,000. It is very difficult to make anything like a correct estimate of the number of hands actually employed, or the amount of goods produced by the manufacturers of men's clothing. We have seen that one house employs nearly three times as many hands as the census allows to the whole 328; and, inferentially, that its annual product is greater than that of the whole amount reported by the census. From as careful a review as it is possible to make of this great business, we should place the number of employees at about 5,600, and the annual product at about \$7,300,000. We are sure that this is rather below than above the mark.

SUBSECTION I.—*Women's Clothing.*

We come next to the consideration of the manufacture of *Women's Clothing*. While this branch of the clothing manufacture has been greatly extended and increased since 1880, the census statistics are not quite as hopelessly wrong as in men's clothing. The census officers report 25 establishments, with \$157,425 capital, 615 hands, \$189,480 wages, \$390,223 material, \$711,249 annual product.

All, or nearly all, of our large dry goods firms are engaged very extensively in the production of these goods; Messrs. *Wechsler & Abraham*, who lead in the business, employing 300 or more hands, and turning out every year more than \$300,000 of these goods. *F. W. Dietz*, of Boerum street, E. D., manufactures women's and children's wear, employing 45 hands, and doing an annual business of nearly \$60,000. he was recently burned out, but is commencing again. *F. Lousier & Co.*; *Journeux & Burnham*; *J. O'Brien*; *Wechsler & Bro.*, *T. K. Horton*, *S. B. Jones*, *C. M. West*, *A. D. Matthews & Son*, *F. P. Sturges*, and others in the Western District, and five or six firms in the Eastern District, are also largely engaged in the production of these goods. There are also many firms which make this their sole business; and when we add to these the dressmakers and cloak and suit makers who have shops and stores, or employ help at their own homes in the manufacture of these goods, we shall find the number of establishments largely increased. Of the 559 dress and cloak makers in Brooklyn, not less than one-fifth (112) "take in work," as the phrase is; *i. e.*, make the goods which are brought to them, or which they furnish, at their own homes, shops or stores; and nearly all of these employ some assistants, in several instances, within our knowledge, from 10 to 20.

The range of this business, which now includes, as the "men's clothing" does not, all articles of feminine underwear, as well as dresses, suits, and cloaks, has caused it to make great progress from year to year. Before the war it was impossible to purchase a bride's complete trousseau from any manufacturer. A few articles might be picked up imported from European or Mexican nunneries, and the rest was made by persons specially employed for that purpose, or by the bride herself. Now it would be hard to find a bride, of whatever station in life, who did not purchase every article needed from the manufacturer or dealer. And this is true to a great extent also of dresses, cloaks and suits, as well as of every description of *lingerie*, not only for women's use, but for the clothing of infants and young children.

The division of labor, in the manufacture of these goods, has been carried to a great extent. Some houses make only ladies' collars and cuffs, and one of our Brooklyn manufacturing houses (*J. C. Roach & Co.*) employ 100 hands on this manufacture alone. Six or eight houses manufacture only embroideries and laces for the trimming of ladies' and children's clothing, and not far from 200 hands are employed in this work only, aside from all the imported laces and Hamburg edgings, Coventry ruffings, and the similar trimmings made elsewhere and sold here. Four houses are engaged exclusively in plaiting, fluting and other trimming work, done by machinery on these goods.

The 11,000,000 and more of sewing machines sold every year in this country, are not purchased for fam-

ily use to any great extent, but for manufacturing purposes, directly or indirectly, many sewing women purchasing their own machines to do work for the manufacturers at their homes.

We conclude then that the number of establishments must be multiplied by five at least, *i. e.*, that there are from 130 to 135 of them. The number of hands employed cannot be less than 1,800; the amount of wages paid is doubtful—not less, certainly, than \$100,000, and probably considerably more—and the total production more than \$2,100,000. Of this product, full four-fifths is manufactured by not over 16 large houses, and the remainder, probably, by the smaller establishments.

SUBSECTION II. — *Shirt and Shirt Front*

The census statistics of shirt-making are as follows: Establishments, 25; capital, \$97,300; hands, 304; wages paid, \$105,723; material used, \$260,511; annual product, \$439,060. The directory for 1883 reports 45 firms, of which, however, 3 have gone out of business, 3 others have their factories out of Kings county, and hence are not manufacturers here, but dealers; 13 are small establishments making a few shirts, or night shirts, to eke out the resources of thread and needle or fancy goods stores, and cannot fairly be reckoned manufacturers.

The Keep Manufacturing Co., the Harding Manufacturing Co., the agents of the "Arcade" and the "Monarch" shirts, and some others, do no manufacturing here, but are simply dealers. Most of the "gentlemen's furnishing goods" stores have particular brands of shirts, of which they are agents, and as these are put up with their labels on the boxes, they pass for Brooklyn manufacturers, when, in fact, they are not manufacturers at all.

Still the manufacture of shirts and shirt fronts is a good business here, both in the wholesale and the customs trade. It is not as extensive as the factories of New York, Philadelphia, or even Baltimore, Chicago or Newark, and probably Troy. But it exceeds in these products any of the other large cities of the Union.

The shirts manufactured here are generally of very good quality, whether made for the wholesale or the custom trade. *The Sun Manufacturing Co.*, of 68 Broadway, E. D.; *George W. Hart*, of 101 Fulton street; *H. N. Burdick & Co.*, of 45 South Fifth street, E. D.; *Gerson & Simons*, 63 Atlantic avenue; *J. C. Duffee & Co.*, 50 Fourth street, E. D.; *Robert Smeaton*, 123 Atlantic avenue; *James Sample, Jr.*, 145 Fulton street; *Henry Siedenberg*, 454 Fulton street; *Milton E. Smith*, 393 Fulton street; *Thomas Bros.*, 517 Fulton street, and *J. A. Johnson*, 352 Fulton street, are the principal manufacturers for wholesale trade. Some of these manufacturers (18) make custom goods for the furnishing goods, to make up custom goods for them, which

will be made in the shape of the dealer, but most of them have been the old-time makers. Most of the large dry goods houses deal in shirts, but with one or two exceptions, they are not made here.

The manufacturers who make up shirts only for their own customers, and who sell their goods to the wearers, and not to dealers, are not so many; the leading house in this business is that of *Ithamar Dubois*, of Fulton street, whose portrait and biography we are glad to present to our readers as that of an estimable, enterprising, honest and high-minded manufacturer. He has been engaged in his present business since 1864. There are no shirt manufacturers in this country whose goods have a better reputation for excellence of quality or perfection of fit than those of Ithamar Dubois, and those who deal with him once are sure to do so again. Mr. Dubois employs a large force in the manufacture of his goods, and his annual product is said to be larger than that of any other custom manufacturer, either in Brooklyn or New York.

ITHAMAR DU BOIS, well and widely known as manufacturer of and dealer in gentlemen's fine shirts and furnishing goods, at No. 328 Fulton street, Brooklyn, is of French Huguenot extraction, and successive generations of his family have lived in America during the past two hundred years. Three brothers of the family were the emigrants, and their descendants are now numerous throughout the Union, and especially so on Long Island, up the Hudson river and in New Jersey. Mr. Du Bois's father, the Rev. A. C. Du Bois, was formerly well known in western New York, where he was instrumental in planting and building up Presbyterian churches, which yet remain as monuments to his zeal in the Christian cause, and is now living at an advanced age in California, where one of his sons is a distinguished physician, and another is in the United States government employ. His mother, who was Mehitabel Sumner, a native of North Adams, Mass., died in 1875.

Mr. Du Bois was born in Allegany county, N. Y., where his father was then laboring in the ministry, in 1830. In 1844, the family removed to the Western Reserve, in Ohio, following westward the course of the Star of Empire. The youth was a student in such public schools as that section of the country then afforded, and later at the old Milan academy at Milan, Ohio. At the age of seventeen he became a school teacher, an avocation in which he was remarkably successful, instructing many scholars much older than himself. Three years he was thus employed, and that they were three years of mental discipline and advancement is evidenced by the fact that during the third year he was principal of a union school at Tiffin, Ohio. Relinquishing the text-book and the ferrule, Mr. Du Bois embarked in the book and stationery trade at Plymouth, Ohio, in 1850, in which he continued until 1857, when he disposed of his business and removed to Brooklyn, N. Y., to become manager of the store of Charles H. Little, a dealer in paints and artists' supplies, on Atlantic street, a position which he held until his functions were assumed by a gentleman who bought an interest in the business of Mr. Little, about the time of the outbreak of the Rebellion.

In partnership with Mr. N. L. Huntington, Mr. Du Bois established a factory and store on Fulton street, within two doors of his present location, for the manufacture and sale

of fine shirts and furnishing goods. It may be interesting to note that these gentlemen were the pioneers in their line in Brooklyn, there having been previous to that time, no stores in the city where such goods were handled, and a market for them having yet to be, in a great measure, created. In January, 1866, Mr. Huntington withdrew from the business, and since that time Mr. Du Bois has been proprietor. Under the latter's management it was more than doubled during the three years succeeding the former's retirement, and it has been gradually augmented to its present proportions as the leading enterprise of its class in the city, the sign of the gold shirt having become familiar to Brooklynites as one of the landmarks on Fulton street. Mr. Du Bois's specialty is fine custom shirts, in which department he has no superior, either in New York or Brooklyn. His store is the centre of a large local trade, his customers living on either side of the East river, and he supplies many regular purchasers throughout the Union, especially in New York and Pennsylvania.

Mr. Du Bois has long been identified with the Presbyterian church, under the influences of which he was born and reared, and very prominent in all measures calculated to advance the general interests of that denomination, as well as of those of congregations of which he has from time to time been a member, as an instance of which may be mentioned the fact that he was prominently connected with the Memorial Presbyterian church of this city since its organization, having for many years served as one of its ruling elders. His earnest devotion to this church has been further proven by the fact that he has materially contributed to its establishment and growth, and his prominence in connection with its Sunday school and mission work, and his performance of the duties of its organist and musical conductor, until recently, during a period of eleven years. He is president of the Bryant Literary Society, and all measures toward public enlightenment and the dissemination of general knowledge have a staunch supporter in him.

The political history of Mr. Du Bois has been one unmarked by any changes of party affiliations. He was one of the pioneer Republicans, and he points with pride to the fact that his first vote cast in a presidential election was for John P. Hale, and his second for John C. Fremont, and that he has voted for each successive Republican candidate for the presidency, including the last. While taking an earnest and intelligent interest in public affairs, he is not, and has never been, an active politician.

In 1852, Mr. Du Bois married Miss Adaline P. Brink, of Plymouth, Ohio, and has a son and three daughters. The son, Mr. William S. Du Bois, was for several years in business with his father, but latterly has resided in California, where he is interested in the manufacture of plows and wagons. Viola C., Mr. Du Bois's eldest daughter, is the wife of J. Freeman Atwood, M. D., of Brooklyn. Lillian Alice, and Edith Louise, his younger daughters, reside at his home, adding to the peace and comfort of his declining years.

Other custom manufacturers of good reputation are: *Ira Perego*, 629 Atlantic avenue; *Henry Smeaton*, of 114 Atlantic avenue; *William P. Johnston*, 397 Fulton street; *Walter A. Phelan*, 103 Broadway, E. D.; and *Henry Jarvis*, 168 Fourth street, E. D., etc., etc. As nearly as we can ascertain, the present condition of the shirt manufacture in Kings county is about as follows: Establishments, 30; wholesale, 22; custom, 8; number of hands, about 450; wages paid, \$160,000; total out-put, \$520,000.

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The grand total of the clothing and shirt manufacture is, then, about 7,850 hands, and very nearly \$10,000,000 of annual production.

SECTION XXXII.

Measuring Tapes and other Instruments of Precision.

The first thought of the reader of this work will probably be, "Measuring Tapes! What a small and trifling article to make a special section of, in an account of the manufactures of Kings county." But the reader would be wrong, for measuring tapes, and the other instruments of precision belonging to this manufacture, are really articles of great importance and extensive use, requiring a large manufactory and the use of a very considerable capital for their production.

Mr. *George M. Eddy*, whose portrait and biography appear in connection with this article, is the only manufacturer of these goods in Kings county, and, perhaps, the only manufacturer of them on a large scale in the United States.

As his biography states, he came to New York, from Massachusetts, in 1845, and commenced this manufacture under circumstances of great difficulty. He had no acquaintance, and very little capital, and but scanty knowledge of the business which he had undertaken. The instruments of measurement, which had been derived from Great Britain, were many of them inaccurate; and these, such as they were, were mostly imported; skilled mechanics, such as were required for this work, were few in number, and not easily induced to enter into the employ of a new beginner in a new enterprise. Then, also of the materials to be used, the tape had to be specially woven for the purpose, the leather prepared especially for this use; and the services of the brass founder and finisher, of the metal spinner, the saddler and leather stitcher, the painter, and above all the printer, must be called into requisition to produce the goods. Special machinery of new designs was required and built for some of the processes of the manufacture; of these machines, the continuous cylinder printing machine, which now prints the tapes in continuous lengths of 400 feet per minute, was the most important and valuable.

The first of these printing machines was constructed in the shops of the Messrs. Hoe & Co., and the principle involved in it was subsequently developed into the great cylinder printing presses of that famous firm, which throw off their 30,000 newspapers per hour.

At that time there was but one wholesale hardware store, Messrs. Clark & Wilson, of Platt street, New York city, through which the American manufacturer could dispose of his goods; the other houses dealing exclusively in imported and mostly English hardware, which they claimed was very far superior to any which could be made here. What are now our great cities, were mostly provincial towns, and the markets were



GEO. M. EDDY & CO'S MANUFACTORY

limited. There were comparatively few railroads, and transportation was slow and difficult.

But, notwithstanding all these difficulties, Mr. Eddy pressed forward resolutely, determined to achieve success. He established his business at first in New York city, in very contracted quarters, but in 1851 removed to larger premises, at 45 Gold street, N. Y., where, for some years he did a thriving business. The panic of 1857, and the commencement of war in 1861, reduced the business to a low ebb. In 1862, it was removed to Terryville, Conn., and in 1865 to Brooklyn, and the next year to its present spacious location, 345 to 353 Classon avenue, built expressly for its purpose, which occupies, with the dwelling-houses of the proprietor and his sons, eight full city lots of 25 by 100 feet, or 20,000 square feet.

In this large establishment are manufactured every variety of measures for which there is a demand, from the one-foot pocket spring tape to the 500-foot steel tape. The pocket spring tapes are of many varieties, styles and designs. There are also measures specially adapted to the use of tailors, shoe-makers, dress-makers, etc., etc., as well as those adapted to the use of surveyors, engineers, iron-workers, bridge-builders, farmers, plumbers, carpenters, and mechanics generally.

There is a large and increasing demand for steel tapes for accurate measurement. A woven tape, however carefully made and protected, is liable to many variations; but a steel tape, if carefully graduated, is subject only to variations of temperature which are easily adjusted. These steel tapes have become indispensable to the surveyor, engineer, architect, dock and bridge builders, iron and pipe manufacturers, etc., etc.

The business has grown and increased with the growth and prosperity of the country, until the goods made by George M. Eddy & Co. are widely and favorably known from coast to coast.

During the nearly forty years of his business life in New York, Brooklyn and Terryville, Mr. Eddy has had several different associates in business, the firms having been successively, G. M. & T. W. Eddy, from 1846 to 1854; Eddy & Wells, 1854-55; Eddy & Hinckman, 1854-1858; Eddy & Wellington, 1858-1861; 1862-1865, the Eddy Manufacturing Company, at Terryville, Ct., Messrs. Ives & Upson being the partners; from 1865 to 1870, Geo. M. Eddy alone; his brother, W. P. Eddy, joined a partner in 1870 and the firm now consists of the two brothers, G. M. & W. P., and Messrs. John G. & W. H. Eddy, sons of Geo. M. Eddy. The firm have a capital of \$100,000; employ 50 hands; pay out annually about \$10,000 wages, and their average annual product is about \$80,000.

Geo. M. Eddy was born in the town of Dudley, Worcester county, Mass., October 14, 1818. He was the son of John Eddy, Jr., a native and life-long resident of that town; and was the eldest of eight children; all of whom lived to maturity.

His father was a farmer and a man of much prominence in town, county and state affairs, holding office more than fifty years, as colonel of militia, representative to the Legislature for years, justice of the peace, chairman of the board of selectmen of the town; of the board of trustees of Nichols Academy; and of the board of assessors.

His grandfather, a native of Gloucester, Rhode Island, and one of the earliest settlers of the town, was a man of enterprise, who, from a wilderness, turned the forest into productive fields, built houses, barns and mills; planted orchards and mulberry trees, and was the first to introduce the culture of silk worms and the production of silk in that section of country. During the first invasion of Rhode Island by the British, in 1776, he raised a company of 100 men for the defence of Newport.

He married Deborah Winsor, daughter of John Winsor, a distinguished Baptist clergyman, whose grandmother was the youngest daughter of Roger Williams, the founder of Providence, and whose grandfather was one of the twenty purchasers of Roger Williams in the purchase of Providence from the native Indians.

The Eddy family are of Saxon origin, and trace their genealogy to John and Samuel Eddy, who came from England in the ship *Handmaid*, and arrived at Plymouth, Mass., October 29th, 1630; an account of the voyage being given in Winthrop's History of New England. They were the sons of William Eddie, the curate of the church of Saint Dunstan, Cranbrook, county of Kent, England, from 1591 to 1616. Samuel was one of the original purchasers of Middleboro, Mass., where some of his descendants still reside.

Jonathan Eddy, his grandson, held a military commission under the Governor of Massachusetts, raised men, and served in the French war in Canada, and afterwards resided in Nova Scotia, until the breaking out of the Revolution, when he joined the American army at Cambridge, March 27, 1776 (see Washington's letter to Congress of that date). He held a commission as colonel, and commanded at the battle of

lands on the Penobscot river after the war—township No. 10, afterwards named Eddington—in recognition of his military services. In 1800, Congress granted him 1,280 acres of land in the Chillicothe district, Ohio, for distinguished military service.

John Eddy, Jr., the father of George M., married Nancy Merritt, a descendant from Henry Merritt, one of the first settlers of Scituate, Mass., as early as 1626. *Savage's N. E. Genealogical Dictionary* says: "Henry Merritt lived in Scituate, where his wife joined the church in April, 1637. He died the last of March, 1653."

Thus, on both the paternal and maternal side, he traces his ancestry to the earliest settlers of Massachusetts and Rhode Island. John Eddy, Jr., died in December, 1867.

Geo. M. Eddy received the rudiments of education at the district school and afterwards at Nichols Academy in his native town. He was an apt scholar, foremost in his classes, and received the commendation of his instructors. While at the Academy, he walked daily three miles to and from his father's residence. He early developed a taste for mathematics and mechanics; and in his boyhood, all the leisure time spared from his books and studies was spent in his father's workshop, constructing various mechanical devices, among which was a complete water-mill, which was placed in a neighboring brook, for the amusement of the boys of the neighborhood. Although he never learned any mechanical trade, this experience gave him a knowledge of the use of tools, which, as Benjamin Franklin wrote of himself, has been of service to him throughout his business career, and a stimulus to invention and construction of machines, useful in his business.

In 1834, at the age of 16, he entered the store and post office of the Hon. William Hancock, in his native town, as clerk, where he remained for three years. The contrast between the postal facilities in those days and at present, is remarkable. There were then four rates of postage, based on the old Spanish silver currency, from 6½ to 25 cents, according to distance, and while a letter is now sent throughout the United States for two cents, the postage was then 25 cents for more than 500 miles. The mails were conveyed in post coaches and the through mail, from New York to Boston by way of Hartford, was carried through the town. The hour of arrival of the southern mail was three o'clock in the morning, and it became a part of his duty to be up, and receive and assort the mail, which, in the winter, was a cold task, while the driver of the coach sat shivering on his box, and the impatient passengers were scolding at the delay, inside. The President's message, at the opening of Congress in 1836, was carried through the town by express riders on horseback and the town's people assembled at the post office to see them pass. For two winters he had exclusive charge of the post office, Mr. Hancock being a member of the Legislature at Boston.

In 1837, he went to the adjoining town of Thompson, Conn., where he remained but a few months before he was prostrated by a fever, taken home, and for a time given up as past hope, but finally recovered.

During the next year and a half, he taught school in the neighboring towns, and, in 1839, entered the employment of Samuel Slater & Sons, extensive manufacturers of cotton and woollen goods, in the neighboring town of Webster, as book-keeper.

In 1840, he made his first journey, visiting New York city, thence to Albany, and by stage through the state, visiting the principal towns to Buffalo, then the largest city west of New York, returning home by way of the Erie Canal, travelling the whole length of it in a line boat, occupying a whole week from Buffalo to Albany, a leisurely and delight-



Geo. M. Eddy

ful way of travelling. Returning home, he engaged in canvassing for various publications, and afterwards was employed by a publishing house in Boston, as canvasser and collector, travelling throughout the New England states for three years in that capacity.

In the spring of 1844, he came to New York and engaged to travel for a New York publisher; went to Maryland, Virginia, and western Pennsylvania, but finding the business unremunerative, returned to Philadelphia.

There from the 6th to the 10th of May he witnessed the native American and Irish riots, in which thirty houses and three churches were burned, fourteen persons killed, and many wounded. The veteran General Cadwalader finally took command of the military, declared the city under martial law, dispersed all crowds, established a patrol of all the principal streets, and put down the mob. The year 1844 was one of great political excitement, there being three parties, Whig, Democratic, and Native Americans. In June of that year he went to the Whig National Convention at Baltimore, which nominated Clay and Frelinghuysen for President and Vice-President, and there for the first time saw Daniel Webster, and heard him make a speech supporting the nomination, although he was, undoubtedly, disappointed and chagrined (as he expected to receive the nomination); he

made a powerful impression never to be forgotten by those who heard him.

Returning to New York in the fall of 1844, he engaged as a traveler and canvasser for the then celebrated publisher of fashions, Genio C. Scott. In that capacity he was engaged for a year, and in traveling among the tailors, his attention was called to the want of correct measures (which were then all imported), and the question occurred to him, why not make them in this country? and with very little means he set about devising and constructing machines to produce them, and the question was soon answered with an encouraging affirmative.

From that small beginning, encountering many discouragements and difficulties during the earlier years, but prosecuted with determination and perseverance, the business has grown and expanded to dimensions undreamed of at that time, until every kind of measure, demanded by all classes and occupations, under the English metre, and other systems of the countries of Europe, is made by the firm of Geo. M. Eddy & Co. From that time he found the occupation of his life, and it bids fair to be that of his successors for generations to come. At his manufactory, the largest variety and probably the largest quantity of measures are produced, to be found in any establishment in the world, with, perhaps,

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Mr. J. J. Tamm, of New York, of whom succeeded by his sons, Geo. and Wm. H., together with his brother, Wm. P., constitute the firm. His sons received a business education previously to entering the firm, and are favorably known in social and military circles in Brooklyn, and hold commissions as officers of the 47th regiment.

In politics, he has always been identified with the Republican party, from its formation, but has never been active as a politician, nor aspired to or held political office. In religion he has always been an attendant at the Presbyterian church, although not a member, but has been identified with the Claddon avenue Presbyterian church (formerly Dr. Puryear's), from its establishment. His social connections have been with the business men of the large cities, and he has been known among the elder merchants of Philadelphia and Boston, as among those of New York and Brooklyn.

SECTION XXXIII.

Lumber—Packing and other Wood Boxes.

"Lumber in the rough," as sawed boards, slabs and planks, are termed, or in any way changed from its original condition, is not an article of manufacture, so far as Kings county is concerned, since it is all brought here in that condition from Canada, Michigan, Maine, Minnesota or elsewhere. The men who only sell it in this condition, are *lumber dealers*, not *lumber manufacturers*, and should be assigned a place among our largest dealers or merchants.

But our larger lumber dealers, almost without exception, have saw and planing mills connected with their lumber yards, and prepare matched and planed boards, and tongue and grooved plank, mortised timbers, doors, mouldings, and other wood-work, ready for the carpenter's use, while some of them make a specialty of wood boxes for packing and other purposes; and others work up the hard woods into various forms. It is only in these connections that we can here regard lumber as a manufacturing industry, though, if we were writing of any of the great lumber States, we must number the products of their great saw mills among the manufactures of the State.

The census takes the same view of this subject which we have done, putting these two items aside from "sash, doors and blinds," which we have already treated: "Lumber, planed," 12 establishments, \$676,500 capital, 1,000 hands, \$243,812 wages, \$1,286,630 material—that is, lumber; \$1,797,821 annual product; and "Boxes, wooden, packing," 7 establishments, \$998,500 capital, 692 hands, \$243,812 wages, \$1,286,630 material, and \$1,767,640 annual product. The two items, it will be seen, are very nearly equal, and together amount to \$3,475,461 of annual product.

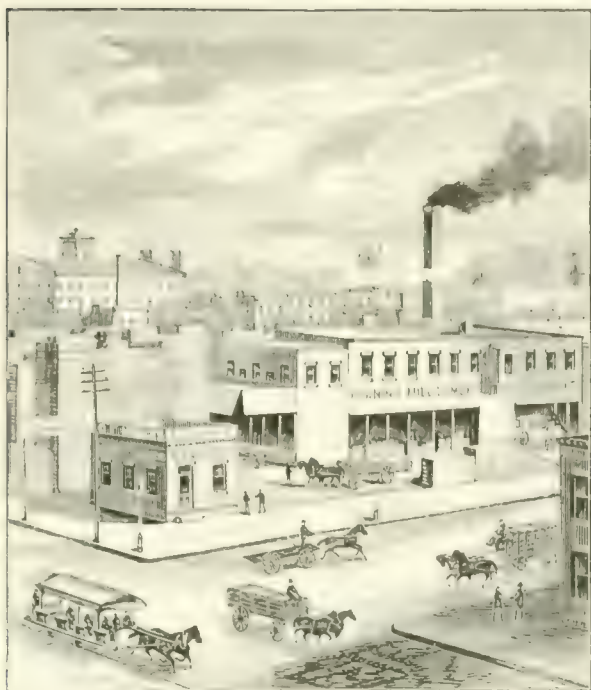
The Directory does not give us much assistance of value in regard to this matter. The lumber dealers, the saw and planing mills, the packing box makers, and the shingle makers are mingled

In hopeless confusion. Visits to many of the leading lumber establishments have cleared up some of the difficulties. Of the lumber dealers, *Charles E. Rogers & Co.* are the largest in the wholesale trade, and *Cross, Austin & Co.* the largest in the retail trade. *Jacob T. E. Litchfield & Co., Julian Ross & Co., Southard & Co., Frederick W. Starr, Beers & Rossignie, Halsted Brothers*, etc., etc., are also very large lumber dealers. Nearly all of these have saw and planing mills, and manufacture their lumber, in part, for builders' use. Some of them have moulding mills, sash, door and blind factories, or hard wood trimmings departments in connection with their lumber yards. Of these, we have already spoken, under "Furniture." There are also moulding mills, saw and planing mills, some of them with hard wood trimmings departments, and one large box maker, who are dealers in lumber to a considerable extent. Among these may be named *John S. Loomis, White, Potter & Paige Manufacturing Company, Goodwin, Cross & Co., Charles A. Rogers & Co., Charles H. Reynolds, H. E. Pickett, Alexander & Ellis, South Brooklyn Saw Mill Co., Long Island Saw and Planing Mill Co., and Oscar F. Hawley*. The last named, while he is the largest box maker, also sells about 6,000,000 feet of lumber.

Among the packing box makers, Mr. *Oscar F. Hawley*, of whose large establishment we give a view, is undoubtedly chief, and his works are probably more extensive than any other in the country.

The magnitude of Mr. Hawley's business entitles him to a somewhat full description. The Hawley family have been engaged in the manufacture of packing boxes in New York and Brooklyn for about forty-four years. The father of the present manufacturer, O. F. Hawley, Sr., was by trade a carpenter, in New York, and commenced making packing boxes as a part of his business in 1840, at first in New street, and, afterward, also in Gold street, New York, Messrs. Foster & Lowerre being his partners at different times till 1861. In 1858, they had removed to their new mill, 128 Church street, corner Thomas, New York, five stories high, still retaining their Gold street place, but selling that in New street. In 1861, Mr. Hawley, Sr., and C. Corley were the proprietors, and O. F. Hawley, Jr., was in the employ of the firm, beginning at the large wages of two dollars per week. He remained in the factory for four years, passing through every department and working at every machine in the works, till he had mastered the business in all its details; and then for four years more, had charge of the lumber yard, which the firm had maintained, since 1845, on Thirteenth avenue, corner West Twelfth street, New York. They bought what is known as the "product of the log," and, using the coarser lumber for their boxes, sold the better grades for commercial purposes.

In 1870, Mr. O. F. Hawley, Jr., became a member of the firm, which then consisted of O. F. Hawley, Sr.,



O. F. HAWLEY'S MANUFACTORY.

William H. Wright and O. F. Hawley, Jr. About this time there began to be some falling off in the demand for packing boxes from the dry goods jobbing houses, many of the jobbers removing to the West, and the goods being sent to them in the original packages, and distributed by them from Chicago, St. Louis, and other points, in packing boxes made there. But a new business was found in the manufacture of petroleum oil cases for export. These cases were of peculiar construction, and each held two five-gallon cans of petroleum oil. The demand for these increased so fast that in 1873 the firm of O. F. Hawley & Co. resolved to move their box factory to Brooklyn, and put up machinery for manufacturing these goods. Their new location was on Rodney, Ross and Keap streets, and Kent avenue and the Wallabout canal. At this time they were manufacturing over 3,000 boxes a day, a very decided advance from the 50 boxes a day with which they had begun. At their new works in Brooklyn, they had made provision for making 3,000 oil boxes and 1,000 of the other sizes daily, but the demand for the oil boxes increased beyond their capacity to supply it, and a new firm and new buildings were required to extend it. The new firm was known as Hawley, Johnson & Wright, and consisted of O. F. Hawley, Sr., a special partner, and his sons, O. F., Jr., and E. C.; Russell Johnson an old lumber merchant, and William H. Wright. The increase in the oil business in 1877, had brought the demand for oil cases up to 8,000 a day, and about 3,000 other packing boxes were required. The firm expired by its own limitation in 1877. O. F. Hawley, Sr., and W. H. Wright retired; Russell Johnson, and E. C. Hawley, as R. Johnson &

Co. took the Brooklyn business, and O. F. Hawley, Jr. the New York business, at 40 Gold street, and the lumber yard was removed to Corleau's Hook, N. Y. On the 20th of August, 1879, the Brooklyn mill was burned down, and on the 23d of August, O. F. Hawley, Sr., died very suddenly, aged 59 years.

R. Johnson & Co. re-built the Brooklyn mill, and sold out their interest in it to O. F. Hawley, Jr., April 1, 1880, who has since conducted the business, both in New York and Brooklyn alone. Both mills have been thoroughly overhauled, and new and complete labor-saving machinery put in throughout. The oil cases are made almost entirely by machinery; the nailing them together being accomplished entirely by machines, and wire nails being used in the place of cut nails. Three machines constitute a set for the oil cases, and turn out the boxes complete. Four sets are now running with a capacity for turning out 18,000 of these cases in a day. Boxes for other purposes are also made to the extent of 2,500 to 3,000 daily, and there is also an immense business done in "shooks," that is, boxes ready to be nailed together, but packed in parts to save room in shipping. These are sent to different parts of our own country, and all over the globe.

The value of the lumber used for boxes by Mr. Hawley is \$750,000 a year; and they sell of lumber, not needed for this purpose, 6,000,000 feet per year. The trade in oil cases when the export demand is active, amounts to over one million dollars a year; in other boxes and shooks, to over half a million. He prints his own labels, trade marks and circulars, in colors or plain as required; uses \$30,000 worth of nails annually; employs two hundred men and boys and ten or fifteen clerks, etc., in his offices; pays \$140,000 annually in salaries and wages, and has a working capital of \$250,000. The manufacture of oil cases is too large a business to be done by one firm, and several of the great petroleum refiners, have their own manufactories for making both these and the five-gallon oil cans which are packed in them. In a busy season of export, the demand from the Brooklyn refineries alone, amounts to between 50,000 and 60,000 cases a day; one house (Devoe Mfg. Co.) using from 25,000 to 30,000, and another (Charles Pratt & Co.), from 15,000 to 18,000. Both these houses, we believe, make most of their own cases.

Aside from these, the other packing-box makers in Brooklyn and Kings county are: *Rogers & Co.*, Bond and Third streets; *James H. Dykeman*, 501 Union street; *L. B. Dells & Co.*, 115 Fremont; *J. Close*, 350 S. 3d; *Edward C. Smith*, 420 Oakland, *Reeves & Church*, 127 Greene, with an office also in N. Y., *E. H. Barnes & Co.*, 26 Court street, and works also at Oswego, N. Y. and *Zephaniah Wood*, 325 Ewen street. The total number of hands employed in box-making considerably exceeds 1,200, and the total output cannot be less than \$5,000,000.

James D. Leary, a native of Brooklyn, was born on the 25th of September, 1837. He is a ship-builder, surveyor of shipping, and civil and military engineer. His life has been a life of constant activity and industry, and his services will be read with interest by all who are interested in the commerce, and to the nation, that we have been at a loss to decide in which connection he would be most fitly placed. He might have been appropriately honored under "Commerce," to which his services, both as surveyor for the British Lloyds, and as the builder of some of the staunchest steamships from our port, and very many of the best government vessels, fully entitled him; his great deeds in connection with naval and military engineering would have given him a place with the most eminent of our engineers; he might have taken rank with our other great ship-builders, for he is the peer of the most eminent of them—and if we have elected to honor him as a ship-builder and a manufacturer of ship-timber and lumber, it is only because we could place him there without a competitor, for the honor which is due to him. His extensive yards, at North Fourth and First streets, are stocked with the best timber and lumber for ship-building purposes to be found anywhere; and those who have had occasion to build or thoroughly repair their vessels, have always found that his ship-yard and lumber yard could furnish the best lumber and the best hands for the work required.

Mr. Leary reports that he commenced his present business in 1867; that he has invested in it a capital of \$100,000; employs 225 hands; pays about \$150,000 for wages; and has an annual production of \$450,000, of which the sales of lumber amount to \$75,000 annually.

JAMES D. LEARY.—There is not in Brooklyn a more extensively or more favorably known citizen than James D. Leary; and those who are his contemporaries, an account of whose lives would be more interesting to the general reader, or more encouraging to the rising generation, as showing that perseverance, unremitting energy and undeviating fidelity to a life purpose, together with personal honor and commercial integrity, will ultimately win their legitimate rewards.

James D. Leary was born at Stack's Landing, James D. Leary was born at Stack's Landing, Montreal, Canada, September 25th, 1837. He attended a private school there during his childhood and moved to Williamsburg, and began to serve an apprenticeship of four years at the trade of ship-builder with his uncle, Thomas Stack, who was, for many years, one of the leading ship-builders of the city of Brooklyn, as now bounded, with a ship-yard between where is now the foot of North Fourth street and the foot of North Sixth street. At the expiration of his term of apprenticeship, during which he attended night school, Mr. Leary was sent to the city of Montreal, where he remained for a few years, and then he came to Brooklyn, and at the foot of North Fourth street.

Thomas Stack, who was a ship-builder, and a very valuable assistant in his uncle's business, insured his

success when he embarked in the same line of enterprise on his own account, and his business thrived, even beyond his expectations. In 1871, he removed to the foot of North Sixth street, and occupied the former ship-yard of Mr. Stack, who had, a few years previously, withdrawn from business. Here he has since built many vessels of all kinds, and, for years, has given constant employment to from 100 to 225 men. In 1876, he bought the lumber yard and mill formerly owned by the Williamsburg Mill and Lumber Company, and has since manufactured lumber very extensively, both for consumption at his ship-yard and for the general market.

The excellence and durability of Mr. Leary's work, and the fidelity and promptness with which he fulfilled all contracts awarded to him, many years ago brought him to the attention of those who looked after the shipping interests of the United States Government, and during the late war his services were secured to superintend the keeping in order of twenty-seven steamers in the United States service; and, during a portion of the period of the Civil War, he was Assistant Superintendent of Construction of the United States Revenue Marine; and at the close of the war he built a revenue cutter at Tonawanda, N. Y., for use on the upper lakes.

Even while yet a foreman in the employ of Mr. Stack, his power to successfully manage heavy contracts had been recognized by that gentleman, with whom he was a silent partner in a government contract of considerable importance, and was the active manager of the building of between forty and fifty vessels thus constructed. If any further evidence of his ability to perform brilliant achievements as a ship-builder, or of his right to take rank among the foremost ship-builders of the United States, was thereafter necessary, it was forthcoming in the signal success with which he fulfilled the important contracts above referred to. That his fame, long since, reached foreign shores, may be inferred from the fact that he was for nine years the only surveyor in New York, for Lloyd's Register of British and Foreign Shipping, his duties being to keep all British and other vessels, classed in Lloyd's, up to the standard required by the rules. It devolved upon him, in this capacity, to visit all vessels damaged, or supposed to be damaged; to see all necessary repairs properly made, and to certify to all bills for the same. A higher compliment than was paid to Mr. Leary for honor and integrity, by his appointment to, and long continuance in this position, can scarcely be imagined by one who has an idea of the inducements to dishonesty and bad faith with his employers, which are made to its incumbent, from time to time, by vessel owners, to whom a delay for repairs, necessary when the lives of their seamen are considered, but not desirable to themselves, often means a loss of thousands of dollars, beyond the actual expense incurred in putting their vessels in condition, and by unscrupulous ship-builders, who are ever ready to avail themselves of the surveyor's favor in attempts to obtain more than an equitable price for services rendered.

Mr. Leary has also been awarded many extensive contracts by the United States Government, other than such as naturally belonged to his regular business; and he has built, in various places, piers, dikes and gun-pits, besides doing considerable dredging; he has also constructed all of the gun-beds in use for heavy ordnance, in all of the United States fortifications, from Maine to California. New York being the great purchasing depot of supplies for the United States Army, Mr. Leary, under successive administrations, from 1868 to 1880, held the contract for all of the local transportation, incident to the purchase and distribution of the supplies to the various military posts in all parts of the Union, employing many men and teams. From 1873 to 1882, he was



James A. Leary,
"D. D."

extensively engaged in the wholesale and retail coal trade in New York, during a greater part of the time supplying all of the public schools and station houses, and all of the government posts and fortifications about New York, and several in other parts of the United States.

Mr. Leary was married September 28th, 1859, to Mary C., daughter of James Fallon, a builder and dealer in brown stone and marble, long well known in Brooklyn, by whom he has had eight sons and one daughter, four of whom are living: Daniel J., aged 22 years; Sylvester, aged 16; George, aged 14; and Marie C., aged 4. Daniel J., a graduate of Columbia College, is a civil and mining engineer, and is now in charge of the engineering and contracting department of his father's business. Sylvester and George are students at the Polytechnic Institute. Marie C. is a bright little miss, who christened the "City of Gloucester," the last steamer built by her father, launched May 22d, 1883. Thorough man of business as he is, carefully looking after even the details of his immense enterprises; wide as is his acquaintance with public men, and numerous and pressing as are the demands for his presence abroad, Mr. Leary finds his greatest happiness in his home, where, in the companionship of wife and children, he passes the hours of rest which follow his days of care. Though he is not one to refer boastfully to his achievements, he is entitled to regard them with pride. Setting out on the journey of life as an humble but earnest apprentice, he has—as the result of his business capacity, his perseverance and the honorable policy which he has always pursued toward all with whom his numerous enterprises have brought him in contact—attained to a position among the most prominent men of the Brooklyn of his day and generation.

We think we are fully justified in estimating the number of hands employed in the manufactures of this section at about 2,300, and the total annual production at more than \$9,000,000.

SECTION XXXIV.

Carriages, Cars, Wagons and Trucks.

The census of 1880 gives the following statistics concerning these industries: Carriages and wagons—90 establishments; \$484,350 capital; 492 hands; \$289,155 wages; \$328,425 material; \$829,492 annual product. Cars, railroad, street and repairs—7 establishments; \$61,774 capital; 92 hands; \$65,329 wages; \$59,266 material, and \$137,055 product. To any one acquainted with the statistics of the manufactures of our city and county, these figures bear on their face the evidence of their inaccuracy.

The directory for 1883 numbers 110 of all classes,—carriage builders, wagon and truck builders, and wheelwrights; but the wheelwrights are for the most part blacksmiths, with whom the ironing of wheels is an incident of their work, or they are finishers of wheels, which have been manufactured in the rough at some hamlet in the wooded districts, and sent here to be finished. There are four axle and spring makers in Brooklyn; whether they make the patent or other hubs also we are not certain, but they have a better claim to the title of wheelwrights than any of the 25 or 30 who claim that name.

The wagon and truck makers are also, many of them, originally blacksmiths, who have added the manufacture of strong and heavy wood work to the iron portions of the trucks and heavy wagons which they made at first. On one of these it is expressly noted that he is a skilful horse shoer; yet he has advertised as a wagon maker for 17 years.

A few of these manufacturers do make very good wagons and trucks, and their grocery wagons, milk wagons and bread carts, are, through the painters' skill, made very attractive.

Among these, Mr. *Joseph F. Clark*, whose specialty is grocers', bakers' and other business wagons, employs about 20 workmen, and has an establishment covering 7 or 8 city lots, in Concord street. *William Conrady* makes trucks, and his skill as a blacksmith enables him to produce those which will stand heavy wear; he started in Ridgewood, in 1867, and did not remove to Brooklyn till 1880; his place is in Marion street. *A. W. Shadboldt & Son*, 68 Flushing avenue; in 1853 the senior member of the firm commenced the manufacture of trucks and heavy wagons on Norfolk street, New York city. He began on a small scale, but enlarged his business continually, and ten years later removed to Brooklyn, locating first in Concord street, and in 1866, at 68 Flushing avenue. In 1873, he erected a new shop, and added a 20-horse power steam engine to drive the machinery. Soon after his son was admitted to partnership, other additions were made to the buildings from time to time, and greater facilities provided for manufacturing. Their product averages about \$100,000 in value annually, giving employment to 25 men.

Several of the carriage builders make wagons also. Among these are *Hand & Fallesen*, of Third avenue, and 22d street, who employ 14 men, pay about \$8,500 for wages and salaries, and turn out \$13,500 of work; *Joseph Statler*, of Forest place, between 4th and 5th avenues, and who started in Fort Hamilton, in 1876; *Robert Jones*, corner of Nassau and Bridge (first at 133 Nassau, in 1865, the firm being then Jones & Burke. He came to his present location in 1880), employs 35 men; specialty, business wagons; yearly turn-out, \$75,000. This is one of the oldest firms in the city.

Of the carriage makers proper, *John Curley*, of 242 State street, is probably the largest; he has an extensive factory, and turns out a large amount of excellent work. *William B. Davis*, of 16-20 Henry street, is also a successful manufacturer. *Coe & Merritt*, of 242 Bedford avenue, established in 1855 on South Seventh street, erected their present building in 1876; they employ, on an average, 30 hands, and turn out \$50,000 worth of carriages annually. *James E. Wheeler*, of 131 Third street. *Duhamel & Singer*, of 169 Clymer street, employ 16 hands, pay nearly \$10,000 for salaries and wages, and produce annually nearly \$20,000. *Reynolds & Kitchin*, 11 and 13a Fulton street, employ

There are no great houses in this business like the Brewsters, Flandreaus, and others of New York, or the extensive carriage works of New Haven, Conn., and Newark, N. J.; but these houses suffice for our local requirements.

We do not think from careful inquiry that the business is increasing in Kings county, and from the best information we can obtain, believe the census report decidedly beyond the actual production. We should hardly place that product higher than \$800,000, or at the most, \$850,000.

We can find no railroad or street cars manufactured in the county, unless some of the railroad repair shops of some of the Coney Island roads, or the Long Island road, may, in the stress of summer travel, have built some of the second-class or cheap cars. There are at these shops, as also at the terminal stables and car-houses of the street railroads, places for repairing the cars, and the great number of them which need repairing, as well as the motors and snow-scrapers, would be very likely to require an expenditure of nearly the amount specified by the census, though this is rather an outlay on the part of the roads, than a manufacturing product.

SUBSECTION I.—*Axles and Carriage Springs.*

The *F. W. Wurster Foundry, Spring and Axle Works*, located near the foot of Broadway, at the corner of 1st and South 6th streets, Brooklyn, E. D., must be ranked among the most vigorous and productive manufacturing enterprises in the city. Their rapid growth from so recent an origin is remarkable. Mr. Wurster first commenced here in 1875, with a foundry, having received his mechanical training in a mowing machine manufactory. This he continued for about three years, when, feeling a capacity and desire for more and larger business, he began making axles with one trip hammer, and a few men. Successful in this, he enlarged in buildings and machinery, and embarked actively in the new department of making steel springs. The three co-ordinate branches developed so fast, individually and collectively, that their demands became imperative, resulting in the erection, in 1880, of the large and imposing building shown in the accompanying cut. Mr. Wurster had previously rented, but now purchased, the premises he occupied, of David Jones, a large brewer of New York. The new building has a total frontage of 250 feet, standing 100 feet on 1st street, and 150 on South 6th street. It is six stories high, and has all possible adaptations of construction



F. W. WURSTER'S FOUNDRY.

kind. Besides this, Mr. Wurster leases an adjoining building on 1st street, 150 feet long, making his frontage 250 feet on this street. Then his foundry in the rear is 75x200 feet, in which all kinds of casting for building and heavy machinery is done. Nor is this all. The spring shop is 50x150 feet in dimensions, where everything in demand, from a light buggy spring, up to the weightiest truck spring, is made. Two steam engines, one of 50, and the other of 150 horse power, furnish the motive propulsion required. Four trip-hammers, innumerable machines, and a force of 200 men, are the fashioning and perfecting forces, by which 10 tons of pig iron, 8 tons of refined wrought iron, and 3 tons of the best steel, are transferred into castings, axles, and springs, every twenty-four hours. Their annual sales are large. There is no similar establishment in Brooklyn.

Jan. 1st, 1884, Mr. Wurster received into copartnership his able assistant, Mr. C. W. Schlüchtner, who had been his salesman for the previous five years.

Mr. Wurster, with the assistance of a superintendent, and three foremen, attends to the mechanical direction and details, and the finances, while Mr. Schlüchtner gives his time to buying the raw material, and selling the manufactured product. Mr. Wurster, who has lived in the 19th ward of Brooklyn since about 1860, is but 32 years old, and his partner is but 27 years old.

With a record of such achievements, so early in life, they have only to preserve their powers of body and mind, and a most satisfactory future is assured.

SECTION XXXV.

Grinders and Wholesale Dealers in Coffees, Spices and Teas.

The large stores along the river front, between Fulton and Wall street ferries, receive three-fourths of

the coffee imported into the United States, including all whole cargoes, and a portion of that in mixed cargoes. Steamers now do more of the carrying trade in coffee than sailing vessels. Coffee from Arabia and the East Indies comes mostly in 300-lb. sacks, while that from South America and Mexico is in bags called "pickles," containing 131½ lbs. each. The exact value of the coffee imported at the Brooklyn stores cannot be accurately ascertained, but would be about three-fourths of the annual importation, which for 1883 was valued at \$42,050,513, about \$4,000,000 less than for 1882. Coffee which becomes "rusty," or discolored, by the sea voyage, and thereby damaged in appearance more than in quality, is "polished" here by rapid revolution in cylinders, which restores its original color, but renders it more shiny, hence the name. The New York & Baltimore Coffee Polishing Company, are engaged in this business, also a few other firms.

Seven-ninths of the tea imported is landed at the stores between Catherine Ferry and Grand street. Its value in 1883 was \$17,302,849, as against \$19,382,102 in 1882. The manufacture of teas here occupies a number of firms. Two-thirds of the tea (the Report on Commerce and Navigation says about one-fifth) imported comes across the Pacific to San Francisco, thence overland. The duty on tea and coffee was removed July 1, 1882.

Under the head of *spices* are included cinnamon, cloves, nutmeg, mace, ginger, pepper, mustard and allspice, which were imported in 1883 to the amount of \$1,550,289. Nearly all of these are landed at the stores between Fulton and Wall street ferries. Several firms are engaged in packing, grinding and preparing them for market.

The first among the Brooklyn firms who handle coffees, spices and teas, are the *Ariosa Coffee Works* (Charles & John Arbuckle), at the foot of Adams and Jay streets. They first established in 1870, in Water street, New York, where they were burned out, and then came to Brooklyn in 1881. Their factory, six stories high, foot of Adams street, was supplemented in 1884, by a large one, nine stories high, at foot of Jay street. They have always dealt in coffees, teas and spices; but, in 1883, they added a general wholesale groceries department. They employ 500 hands, 48 roasting cylinders in operation each day, and 32 all night, each cylinder of copper, with 300 lbs. capacity, and taking 35 minutes to roast; 2,500 sacks of coffee, of 130 lbs. each are roasted, and 12 car-loads of ground goods shipped daily. They import coffees from all countries where they are grown, and do a business of \$8,000,000 per year. William Waring's *Brooklyn Coffee & Spice Mills*, at 74 Fulton street, was established (by Cornelius Van Cott, brother of Judge Joshua M. Van Cott), at Hicks street, about 1839; was at 46 Fulton street for 21 years, then located at 48 Fulton; then in Nassau, and since 1854 at its present locality. The *Germania Coffee & Spice Mills* (of Wischmann &

Bohn), at 78 Fulton street, was established in 1852, at No. 25, same street, and have been 10 years in their present location. They employ 16 hands, a 12 horse power steam engine; roast 1,500,000 lbs per year; business amounting to \$190,000 annually. Mr. Bohn entered the firm in 1879. We present, herewith, the portrait and biography of the senior partner.

HERMANN WISCHMANN.—A prominent member of that class of energetic men who are engaged in manufacturing in this city, and who constitute such an important factor in Brooklyn's commercial importance, is Mr. Hermann Wischmann. Like many others who have built up large business interests here, Mr. Wischmann is an adopted citizen of this country, having been born August 18, 1831, in the Kingdom of Hanover, now a part of Prussia. His father was a farmer, living near the Baltic sea-coast, who gave his son the educational advantages which were afforded by the village school, as conducted under the well known and thorough German system. The lad lived quietly at home, until he was seventeen years of age, never having traveled far, or seen a city. Two brothers had preceded him to America, and their letters awoke in him the desire to leave the quiet farm life, to see something of the world, and to try his fortunes in the United States. He accordingly took passage for America, arriving in New York, as so many others have done, poor in purse but rich in hope, ambition and energy. His stay in the city extended over three years, during which time he was employed as clerk in the grocery business. Then came an opportunity to invest in an undertaking which promised well, and he put his savings into the New York Submarine Wrecking Company, an organization which was formed for the purpose of raising sunken vessels. The Company did not succeed, and recovered neither sunken ships or sunken capital, so Mr. Wischmann lost his all, and was forced to begin again at the bottom of the ladder. Notwithstanding the ebb in his fortunes, he took unto himself a wife, whose acquaintance he had made in South Brooklyn, while duck-shooting in the Bay. Casting about for something to do, he remarked upon the crowds of people daily passing over Fulton Ferry, and reached the conclusion that a dining saloon on the Brooklyn side, near the Ferry, would be remunerative. He therefore opened such an establishment at No. 25 Fulton street, beginning in an humble way, but gradually enlarging his accommodations as he was able. At the end of six years he had accumulated some capital, and, what was better, had won the confidence and esteem of all who knew him. An advantageous offer was made him at this time, to go into the coffee trade as clerk in Waring's house, where he remained four years, giving such satisfaction that a share in the business as partner was offered him, of which offer he availed himself. The firm relation existed for ten years, when he decided to start in business for himself, having acquired the necessary experience and some capital. He bought and rebuilt the stand at 78 Fulton street, with Mr. Hohorst as his partner, who remained for only a year, however. By close attention to his business, and good management, Mr. Wischmann was able to increase his operations year by year, adding to his place of business, putting in a steam engine and requisite machinery, until the small store of a few years since has become a large wholesale establishment, dealing in coffees, teas and spices, employing a number of men and horses, and turning out many thousands of dollars' worth of manufactured products annually. Early in his business life he adopted the motto, "Pay as you go," which has proved as a business policy in his case as it unfortunately has

access in mercantile life by accident, or to the property without faithful, persistent labor. The only losers, must combine industry, energy and honesty. Mr. Wischmann, at the same time, is a man of honor, to whom the business world is indebted in his career. This gentleman, however, Mr. Wischmann, and have brought him not only wealth, but also the respect of the community and the respect of his friends. His position in the office of the city is a favor to those measures that would tend to the public good, and to oppose strongly all forms of dishonesty in municipal matters, though he is not a member of the Board of Aldermen, and that the Republican ticket, generally. He is fond of reading, and well posted in the current events of the day. Affable in manners, his courtesy is genuine, springing from a kind heart, that does much in charity towards relieving the misfortunes of others. His church connections are with the German Lutheran Church, in Henry street, of which organization he has been a member for a number of years. Always fond of society, he has been a member of several social organizations and a military company; he is also a member of Joppa Lodge of Free Masons.

His time is still mostly devoted to his large business, which he oversees for himself, although receiving the assistance of a younger partner in carrying out the details. Mr. Wischmann is to be congratulated upon having won, by his own exertions, a competence and a good name, both among business men and in society at large.

The firms of *Packard & Jones* (the portrait and biography of the junior partner, Hon. *Darwin R. Jones*, will be found at page 416), of 93 Furman street; *E. R. Packard & Co.*, 263 Water street, do each an annual business approaching \$500,000 each, and employ some twenty men; *Wm. Boeling*, 124 Kent avenue, established at 122 Raymond street, employs 5 hands, roasts about \$100,000 annually; *Von Glahn, Bischoff & Co.*, established 1882, came from Tompkins avenue, corner of Park avenue. They roast some 50,000 lbs per month, and their sales amount to \$500,000 per year. They make a specialty of wholesale groceries, and do an annual business of \$100,000 in potatoes. The Von Glahn Bros. commenced the milk business nine years ago with only \$250 capital. *J. Weidemeyer, Jr.*, *J. J. Snyder*, *Henry Watson*, and the *Bain Tea & Coffee Co.*, also conduct these concerns.

A few of the foreign houses have offices in New York city. A large part of the coffee handled by these firms is shipped in sacks. After being sorted and picked over, the green coffee beans are passed through rollers into cylindrical iron roasters, which are constantly revolving within a heated furnace, and are cooled from 150 to 100 degrees Fahrenheit, which, after being roasted, is run into large cooling trays with double gauze bottoms, which, when filled, are covered with a sheet of cold air. The smaller ones being used for 100 lbs per day, and the larger ones proportionally more. Spices are ground and put in pound and half-pound packages; spices of all kinds are also handled in the general trade of the United States.

The business of the city is a favor to those measures that would tend to the public good, and to oppose strongly all forms of dishonesty in municipal matters, though he is not a member of the Board of Aldermen, and that the Republican ticket, generally.

dustries, we present the portrait and biography of Mr. *S. M. Beard*, a long and well known resident of our city, although his business interests are more strictly associated with New York city.

SYLVESTER M. BEARD.—This gentleman, one of the best known and most highly respected residents of Brooklyn, E. D., was born Dec. 11th, 1810, a son of Samuel and Arteretia (Wooster) Beard. His paternal grandfather was an American soldier in the Revolution, and lived in the house in which his son Samuel lived after him, and in which Sylvester M. Beard was born. In 1832, Samuel Beard disposed of the old family homestead in Huntington, Conn., and removed with his family to Oxford, Chenango county, N. Y., where Sylvester M. Beard passed his time on his father's farm until 1840, in the meantime returning to Huntington, Conn., his native place, and marrying Miss Lucy M. Cummings.

In 1840, Mr. Beard came to New York and soon engaged in the grocery trade, in partnership with his brother-in-law, William A. Cummings, under the firm name of Beard & Cummings. In 1844, these gentlemen changed their trade to one in tea, coffee and spices, in which they embarked in a small way near the foot of East Houston street. Two years afterward they bought the store and mill of William Prentice, in Front street, their offices being located at 279 Front street. Their business was prosperous, and steadily increased, until their sales aggregated about \$1,000,000 per annum. In 1860, the firm changed its organization somewhat, and was known as that of Beards & Cummings until 1872, when it became Beard, Sons & Co. After some intermediate changes it became known as the house of Fitzpatrick & Case, Mr. Beard having an interest in the business, which has assumed such proportions that for some years past it has not unfrequently reached an annual aggregate of \$7,000,000 to \$8,000,000 and has amounted to \$12,000,000 in a single year. The store and offices of this house were removed to 128 Front street in 1861, and thence in 1862 returned to 279 Front street, whence they were removed, in 1879, to numbers 5, 7 and 9 James slip. This important commercial enterprise is extensively known in New York, and throughout the principal business centres of the United States. Its history in detail would be an interesting one, as showing how, from a small beginning, an immense enterprise may be built up by the judicious and persistent application of those cardinal principles, without which no success, however slight in degree, can be attained. To Mr. Beard is due, in no small degree, the credit of this gratifying success.

Elsewhere, in these pages extended reference is made to the beautiful *Cemetery of the Evergreens*. With the history of this celebrated burial place, the name of Mr. Beard is inseparably linked. At the organization of its first association in 1852, he was one of the original stockholders. Through the trying years of its early history, he was one of its staunchest supporters, and when, in 1872, difficulties of long duration culminated in its sale by legal process, he became the purchaser, and through his influence a stock company was organized, under a special act of the Legislature, to take charge of its interests, with William A. Cummings as president, Sylvester M. Beard as Vice-President, and Winchester Britton as Attorney. Since that time, during the more prosperous years of its history, in which it has taken rank among the leading cemeteries of New York and Brooklyn, Mr. Beard has been active in its management, and he is its present Vice-President.



S M Beard

Mr. Beard was one of the projectors of the *Metropolitan Life Insurance Company*, of New York, and has been one of its directors from its organization. He was one of the originators, and has from the first been a director, of the *Brooklyn Cross Town Railroad Company*. He was one of the organizers of the Ross street Presbyterian church, was its first treasurer, and one of its first trustees. From time to time through his busy career, he has been prominently identified with other commercial, religious and charitable interests of Brooklyn and New York. He first came to Brooklyn to reside in 1845, nearly forty years ago, and in 1852 built his residence, No. 10 Bedford avenue. It is probable that he has done more than any other man to improve his part of the city, and large sums have been expended by him to that end. He is widely known as an honest, upright, Christian gentleman, and his home is one of the most hospitable in the city.

SECTION XXXVI.

Marble and Stone Work.

The census statistics of this industry are: 92 establishments; capital invested, \$738,300; hands employed 731; annual amount of wages paid, \$54,858; \$554,084 material; \$1,329,234 annual product. It is safe to say that this estimate is not more than half the truth, considering the steady increase of those who build fine houses and decorate them expensively, and that our cemeteries exhibit a wealth of monumental expense and taste, far in excess of former years. The great improvement, of late years, in stone decoration has called forth some very handsome and artistic work in stone applied to building purposes. The new building of the Dime Savings Bank is an example of this, as are several lately erected in the better parts of the city.

The Italian marble is purchased from the importer in the rough, and dressed at the yards. The dark grey Quincy granite, from Quincy, Mass., is dressed at the quarries, and polished here at the yards. This process, formerly done by hand, is now performed by machinery. The stone is laid horizontally on a heavy table, over which swings a vertical revolving shaft, terminating in a circular disk, 12 to 18 inches in diameter, which is in contact with the stone. Sand and water are the first dressing, afterwards disks of emery and felt are used. Marble is polished in the same way, except the mouldings, where hand rubbers are used. Large spherical or oval surfaces are smoothed by close-fitting rubbing tools, pushed forward and back by machinery. Marble is sawed by power drag-saws. The larger firms rough-dress their granite at the quarries, thus saving in the cost of transportation.

We may divide the subject into *stone yards* (i. e., for the preparation of building and flagging, or paving stone), and *marble and granite works*, monuments, &c.

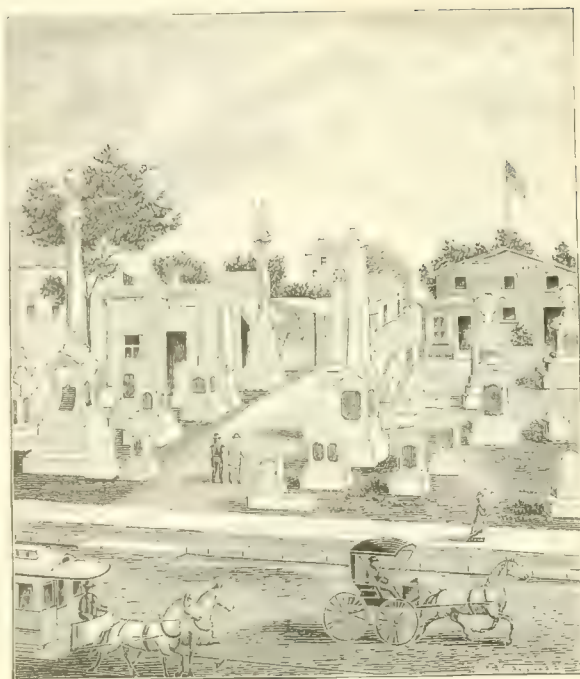
The 35 firms who deal in building stone, handle brown stone, freestone, marble, granite, and blue limestone, mostly. The increasing amount of building every year, leads to a corresponding increase in the quantity of work called for.

Among the *stone yards*, which are grouped along the water line of the Wallabout district, is that of *Gill & Beard*, who are the largest firm of stone cutters in the city, owning two yards on Wythe avenue, corner Reap street, each 200 feet square, and a large yard on 60th street, New York, which is soon to be removed to 105th street. They deal mostly in brown stone, which is quarried at Portland, Conn.; also in blue stone, from Pennsylvania. The stone is shipped here in the rough, and dressed by machinery as far as practicable. A gang of saws supplied with water and chilled shot separates the stone into slabs, each of which is then smoothed by friction on horizontal iron plates some 12 feet in diameter. Saws with diamond points are also used. The carving and decorating is, of course, done by hand. This firm, in the summer, gives employment to 180 men in Brooklyn, and about the same number in New York. Their annual production amounts to \$200,000. Their portraits adorn our pages, *H. P. Christies*, Wythe avenue; *C. Rothledge*, and *Matthias Bindrim*, his partner; *Henry Kemp*, Washington avenue, near Wallabout bridge; *Julius Bindrim*, 176 Flushing avenue, and *Charles S. Leonard*, 172 Flushing avenue. *James D. Russell & James Ross*, corner of Bond and Carroll streets, from a small beginning in 1873, at corner of President and Bond streets, now do a large business in free-stone for buildings; *John Barney*, Third avenue and Union street, established 1867 (firm of Barney, Morton and Canda), on Gowanus Canal, foot of Bond street, deals largely in blue stone from Albany, and along the Hudson River, and has supplied the Mercantile Library, and many other prominent Brooklyn edifices; he handles \$60,000 worth of stone annually. *Curran & Cooper*, Third street, near Third avenue, commenced in 1866 with hand labor alone, and have now a large establishment, replete with all the necessary machinery; they deal largely in free-stone. *Thomas H. Dixon*, Baltic street, corner Third avenue, deals in brown, Dorchester and Ohio stone; established 1849, Hamilton avenue, South Brooklyn. *William Bradley & Son*, free-stone, Nevins, corner of Butler street, established 1868; capital, \$60,000; annual product, \$80,000. *John M. Loring*, corner of Court street, free-stone cutting, established 1873; employs an average of 40 men; capital, \$100,000; annual amount of product, about \$70,000. *A. D. Bird*, 100 Hoes street; *L. H. Loring*, 148 Court street; *Bryant & Jones*, Third avenue; *E. & F. O'Callin*, Fourth avenue and St. Mark's place, 15 years in business; *S. Dean & Bro.*, 140 Second street; *C. F. Hommel*, Grand street; *Peter Lyman*, Clinton avenue; *J. McPherson*, Court street; *J. W. Moran*, Hamilton avenue; *J. W. O'Brien*, 11 Park street.

The *marble*, or monumental works, are naturally found in the neighborhood of the cemeteries, for which our city is noted. In the vicinity of Greenwood are the establish-

Japan's leading source of environmental grants and loans, contributing more Government, is also an example of the country's open market sales to the rest of the world, including some to men. Before

Prominent among these establishments is that of Mr. *John J. Green*, 237 Twenty-fifth street, near 5th avenue. Mr. Green is a native of New York. In 1835, when a young man, he began to learn the art of monumental stone cutting, and in due time became a proficient. In October, 1854, desiring to start in business for himself, he joined with two other young men, John Farrell and William Holden, in opening a granite yard. An old blacksmith shop stood at the corner of Third avenue and 25th street, of which the owner, Mr. Hatfield, gave the young men the use by way of encouragement. The three parties had but \$75 a piece for their start, but they worked hard and gradually built up a good business; they were able to take a more eligible location on 36th street, and also to buy out the stock of Edwards' yard to manufacture and dispose of it. After working together three years, Mr. Holden retired from the firm, leaving Mr. Green and Mr. Farrell to continue. The latter died in 1861, since which time the former has carried on the business alone, which he removed in that year to its present location on 25th street, near 5th avenue. His establishment covers six lots, and contains a large stock, mostly of Quincy granite, with some fine monuments, worth about \$25,000. Mr. Green has a son, Mr. John J. Green, Jr., who is required to carry on the work of the establishment. Mr. Green has done his share in the great improvement visible in mortuary sculpture during the last twenty years. His son now produces original designs for the father's use, some of which possess great artistic merit.



In the Eastern district we find many firms, the more important of which are *Alexander Eschenbach*, 338 South Twelfth street; *Patrick R. Carrell*, 272 Division avenue; *Jordan & Son*, corner of Division avenue and Tenth street; *R. Cocroft's Sons*, Bushwick avenue; *Jno. Benisch*, E. N. Y.; *Thos. Ellson*, Broadway; *Thomas McLaughlin*, 204 Flatbush avenue, and around the entrance to the Cemetery of the Evergreens, on Conway street, near Broadway; *John Moriarty*, *John Murphy*, and *Conrad Noll*; *Garity Bros.*, Meeker avenue, corner of Gardiner street, have their quarry and workshops at West Quincy, Mass., established 1870, and give constant employment to 40 hands.

ROBINSON GILL was born at Oatley, Yorkshire, England, December 17th, 1829, and came to America in 1851, at the age of twenty-two, having previously learned the stone-cutters' trade, at which he was employed in New York and Brooklyn for about two years. In partnership with his brother, Edward Gill, he established a stone yard at the corner of Kent avenue and Rodney street, Brooklyn. Edward Gill dying in 1853, the entire business fell into the hands of Mr. Robinson Gill. In 1862, Mr. Gill removed to Troy, N. Y., and was in business there until 1869. In the meantime, in 1866, in company with Charles Peacock, he established a stone yard at Boston, Mass., which was suc-



Frederick H. Baird



Robinson Hill

cessfully operated by Messrs. Gill and Peacock for four years. In 1866, Mr. Gill formed a co partnership with Mr. Andrew D. Baird, under the firm name of Gill & Baird, and they established their present stone yard at the corner of Wythe avenue and Keap street. Mr. Baird had learned the business with Mr. Gill, and having been for a considerable time in his employ, managed the concern during the next two years, when the business having largely increased, and Mr. Gill's interests at Troy not promising satisfactorily for the future, he returned to Brooklyn to give his undivided attention to the affairs of Messrs. Gill & Baird in that city.

Long practically acquainted with all the details of their business, Messrs. Gill & Baird advanced it to more than double its former magnitude, introducing, from time to time, various improvements, until their yard was supplied with every modern facility in the line. In 1879, the firm established a second yard on Sixty-fifth street, New York, Mr. Gill taking entire charge of the same. So long has been Mr. Gill's business career, and so extensive has his trade become, that he cannot but be reckoned as among the oldest and best known men in his line in New York and Brooklyn, and his record is that of an honorable, straightforward man of business, who, by the exercise of energy, tact and perseverance, aided by courtesy and fair dealing, has made himself an enviable place in the city of his adoption.

An ardent Republican, Mr. Gill takes a deep and abiding interest in the measures of that party, though he is not in the usual acceptance of the term a politician. His standing in business circles has led to his identification with various commercial enterprises and public improvements, and at this time he is a director of the Commercial Bank and the Dime Savings Bank of Brooklyn, and of the Brooklyn, Flatbush and Coney Island Railroad Company. He was married, February 25th, 1856, to Hannah Thorpe, of Brooklyn.

ANDREW D. BAIRD was born at Kelso, Scotland, October 14th, 1839. His parents were Andrew and Ellen (Lindsay) Baird. In 1853, he came to the United States with his father's family, and located in that portion of Brooklyn in which he has since resided almost continuously.

Andrew Baird, Sr., was a stone-mason, and early in life the subject of this sketch was apprenticed to the same trade in the stone yard of Robinson Gill, at Wythe avenue and Keap street, where he thoroughly mastered the stone-cutters' department of the stone-masons' work, at which he was employed until the outbreak of the late rebellion.

May 18, 1861, Mr. Baird went out as a private soldier in the Seventy-ninth New York Highlanders, a regiment largely made up of Scotchmen, which was in the field without intermission from the first fight at Bull Run to the surrender of Lee at Appomattox. It

is due to Mr. Baird to state that the records show that he was at his post, and doing his duty in every engagement in which his regiment participated. At the first battle of Bull Run, he was promoted on the field from corporal to sergeant for bravery, and at the second Bull Run fight his prowess was rewarded by his promotion from a second lieutenantancy to a captaincy. At Chantilly, where the brave Kearney fell, he was severely wounded, and still carries in his arm a rebel bullet as a memento of that fight. He was wounded also at Blue Springs, and at the final terrific struggle before Petersburg. While his regiment lay in front of Petersburg, he received a commission as major and brevet lieutenant-colonel, by special orders from the war department, for gallantry on the field, and meritorious conduct in camp, and he commanded the regiment as lieutenant-colonel and brevet colonel in the final campaign. At a regimental dinner, in which he, with many of his former comrades, participated, long after the war, his health was proposed by Colonel Morrison, who referred to him as the only soldier in the regiment who had been twice promoted on the field for bravery in action.

At the close of the war, Mr. Baird returned to Brooklyn and, in 1865, he was married, and two sons and a daughter have been born to him. In 1866, he formed a copartnership with his former friend and employer, Robinson Gill, in the ownership of the stone yard where he had served his apprenticeship to the stone-cutters' trade. He has since that time been an active and enterprising man of business, and to his efforts is attributable in no small degree the success of the well-known firm of Gill & Baird, whose business is elsewhere referred to more particularly.

Those patriotic convictions which impelled Mr. Baird to brave the terrors of the field of strife, early attached him to the principles of the Republican party, and a steadfast Republican he is and has been ever since he attained to an age to take an interest in governmental affairs. Especially is he devoted to what he regards as the best interests of Brooklyn, and both in his ward (the nineteenth) and throughout the city his strength in the councils of his party is felt and recognized. During a period of six years, embracing three consecutive terms, closing with the sessions of 1882-'3, he represented the Nineteenth Ward in such an able and effective manner, that even those who oppose him politically give him credit for the possession of the rare combination of qualities which befit him for a party leader—honesty, ability, tact and unflinching opposition to trickery and rascality.

Did space permit, we might refer to many of his public acts, while thus in the service of his fellow-citizens, which have demonstrated his unswerving integrity, and his uncompromising devotion to the welfare of the city. His retirement on account of the pressing demands of his increasing business, was referred to with regret by people of all classes, who have learned

assigned the police to his hands, and the conduct of municipal affairs as likely to be better for his counsel and aid.

SECTION XXXVII.

Fire Brick and Tile.

The census has Brick and Tile, but includes under it some pottery which does not belong to it. There are about twelve concerns in the United States engaged in the manufacture of clay retorts, used in the generation of coal gas, and so satisfactory is the quality of the domestic article, that the importation of such apparatus has almost entirely ceased. Cast-iron retorts were discarded years ago, being found inferior to those made of clay.

retort factory, ninety by two hundred feet, one story; fire-brick factory, one hundred by one hundred and seventy-five feet, two stories; engine and boiler rooms, and carpenter shop, seventy-five by one hundred feet, two stories; storehouse, one hundred and twenty-five feet square, one story; office building, twenty by thirty feet, two stories. The ground floors are all paved with stone flagging, and the entire works are as nearly fire-proof as possible, but further protection is secured by means of a powerful steam pump. Ample accommodations are provided for a large number of horses and wagons, and the open spaces between the buildings are utilized for the storage of clay and other materials.

The best retort-clay comes from New Jersey, whence it is shipped by the company directly to their wharves.



BROOKLYN CLAY RETORT AND FIRE BRICK WORKS.

One of the largest establishments of this kind is the *Brooklyn Clay Retort and Fire Brick Works*, of which Messrs. EDWARD D. WHITE & Co. are the proprietors. The location of the works is in South Brooklyn, N. Y., near the Erie Basin. The premises include about fifty city lots, situated on Van Dyke, Elizabeth, Richards and Partition streets, with a frontage of five hundred and fifty feet on the first-named street, six hundred and ten on the second, seven hundred and twenty-five on the third, and two hundred and thirty-seven on the fourth. The dock has a frontage of one hundred and twenty feet, and the slip is two hundred and thirty feet long, with a depth of eighteen feet of water at low tide.

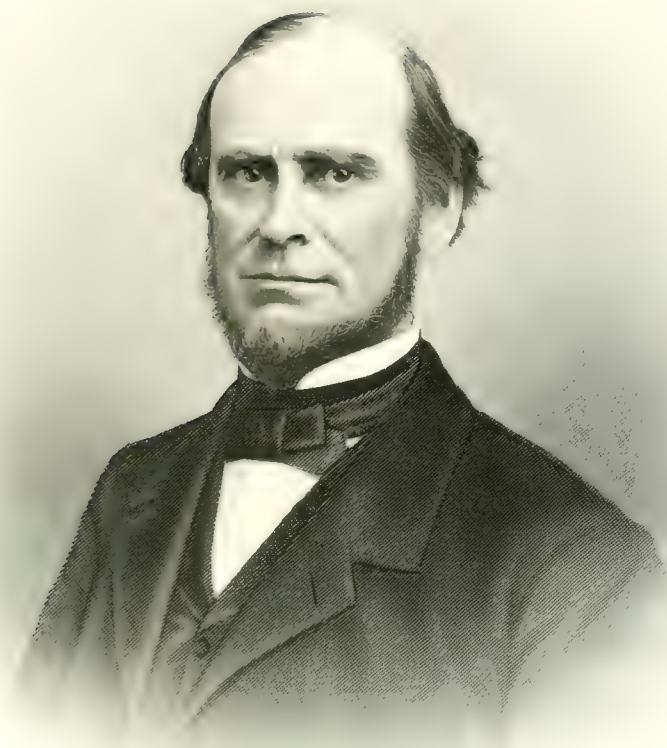
The dimensions of the principal buildings, solidly constructed of stone and brick, are as follows: gas

After being crushed in mills, it is properly tempered, thoroughly mixed, pressed in moulds, dried and fired in kilns.

The kilns are of large dimensions and the most improved construction. The chimney connected with the retort kilns is seventy-five feet high; that from the fire-brick factory is one hundred and twenty feet high. The machinery is driven by an engine of 75 horsepower, and steam is employed for heating purposes. The full complement of hands is about seventy-five.

The gas retorts from these works are of the best possible quality, and they are used in all parts of the country, orders being received from the most distant sections.

The fire brick are of all the various shapes required in rolling mills, cupolas, foundries, forges, lime and



Wm. L. G. G. G.
L. S. G. G.

cement kilns, etc. Besides these, the production includes all kinds of slabs and tiling for the lining of ovens, stoves, grates and furnaces.

The business of this concern was established in 1854 by the late Mr. Joseph K. Brick, who purchased a considerable tract of land near the Erie Basin, and gradually built up the works to their present proportions. He was the first manufacturer of clay retorts in this country. After his death, in 1867, the business was continued by his partner, Mr. E. D. White, until 1877, when the present firm of Edward D. White & Co. was formed by the admission of Mr. Ira N. Stanley, who had been interested in the business for twenty years; the estate of Mr. Brick retaining an interest in the business. Mr. Stanley is a practical gas engineer, thoroughly conversant with all the details connected with gas works, and his able superintendence has widely extended the reputation of the works.

JOSEPH KEASBEY BRICK was born at Woodstown, Salem county, N. J.; in early life was dependent upon the labor of his own hands for support, and his opportunities for school instruction were quite limited. From his boyhood, however, his desire for knowledge, both practical and scientific, was very great, and he improved every opportunity to acquire it. While employed in Philadelphia, during several years, the Franklin Institute found him, after his daily toil, a constant visitor. In various departments of science he was a student all his life.

In that department of practical and scientific work to which he mainly devoted himself in after life, namely, that of the construction and management of gas works, he was regarded as an authority. Many of the improvements now in common use in gas-making were first proposed by him, notably the introduction of the fire-clay retort. The city of Brooklyn is indebted to him and his associates for the first introduction of gas. In 1848-'9, the works of the Brooklyn Gas Light Company were erected under his superintendence; and, for many years he was engineer and until his decease, and a Director of that company. The Gas Works at Buffalo were erected under his oversight about the same time. From this time he was sought for as Consulting Engineer, and his judgment was relied upon in gas work all over the country.

When water was first introduced into the city of Savannah, Ga., the work of distribution was done under his superintendence, and to the satisfaction of the public authorities.

To all his undertakings he brought untiring energy. No work was satisfactory to him unless it was the best that could be done. In the latter years of his life he traveled much in this country and in Europe; and, being a man of taste, of well-trained mind, and a close observer, he gathered stores of most valuable information, which he took pleasure in imparting to others. He died at Hot Springs, Ark., Aug. 7, 1867; his children died in infancy. Mrs. Brick is a resident of Brooklyn, living at corner of Lafayette and Vanderbilt avenues.

John Cooper, 413 Oakland avenue, estab. 1868; makes the fire-brick for the Union Porcelain Co.'s ovens; employs about 50 men. *John G. L. Boettcher*, foot of Clymer street, manufactures fire-brick and tile; *The International Tile Co.*, Third street, near Hoyt, manufactures encaustic tile for floors, mural decorations, &c.,

SECTION XXXVIII.

Silk and Lace Goods; Mixed Textiles; Woolen and Cotton Manufactures; Knit Goods.

The manufacture of silk and silk goods is reported by the census of 1880, in Brooklyn, as follows: 15 es-

tablishments; \$559,375 capital; 707 employes; \$231,135 wages; \$443,135 material; \$853,480 annual product. Like most of the census reports, it was both redundant and defective. The original return by Mr. William C. Wyckoff, the accomplished Secretary of the Silk Association of America, and special agent of the Census Office, on silk manufactures, differed from this in several particulars. Mr. Wyckoff reported, "silk goods and mixed textile fabrics, 21 establishments; \$680,500 capital; 1,199 hands; \$290,299 wages; \$598,543 material; \$1,102,576 annual product. The Census Office separated as they had a perfect right to do (though the exercise of that right was very unwise), the mixed textiles from the silk and silk goods, but they had no right to increase the number of silk establishments from 10 to 15, since Mr. Wyckoff's facilities for ascertaining all the facts in regard to the silk manufacture were much greater than theirs could possibly be. Their report of mixed textiles was: 11 establishments; \$338,300 capital; 259 hands; \$99,430 wages; \$263,097 material; \$423,230 annual product. Adding the two returns together we have 26 establishments; \$897,625 capital; 966 hands; \$830,565 wages; 706,232 material; \$1,276,719 annual product; a result which it will be seen differs at every point from Mr. Wyckoff's, and gives \$174,143 larger product. We have said that these returns were both redundant and defective—redundant in the number of silk factories, of which there were not then, and are not now, more than 10 in Brooklyn. In 1881, the Textile Directory reported 14 establishments large and small in Brooklyn, but of these, four were small shops, manufacturing hat cord, or braids and gimps, in a very small way, all of whom gave up the next year, and of the remaining ten, two had failed before 1883, though two others had taken their places. The return was defective, because the manufacture of silks, aside from mixed textiles, produced more than a million of dollars annually. Of the silk and silk lace manufacturers, there are now only two (there were four in 1881). Of these, the *Jennings Lace Works* (A. G. Jennings & Sons) is the oldest and much the largest. We give a view of their works on the opposite page, and a portrait and biography of Mr. A. G. Jennings herewith.

The history of these works is very interesting. About 1867, Mr. Jennings, an enterprising business man, with ample capital, for which he sought opportunity of investment, found a small establishment in Jersey city, with very little capital, trying to make silk hair nets, which were then the fashion. After some negotiations, Mr. Jennings purchased the little factory, and commenced the manufacture of the silk nets on a somewhat larger scale. In May, 1868, he removed the business to Park Place and Barclay street, New York city, and added largely to his machinery and facilities, and commenced making laces as well as hair nets.

In 1871, the lace works were removed from New York to the corner of Park avenue and Hall street,



A. G. JENNINGS & SONS' LACE WORKS.*

Brooklyn, where Mr. Jennings had erected a large and commodious factory, specially adapted for the business of manufacturing silk laces in all its branches, from the raw silk to the dyeing and finishing the lace perfect for the use of the consumer.

Since that time the business has been yearly extended and improved, both in the variety and quality of laces made: new machinery imported; many more persons employed, many of whom, skilled in the various branches of the art of making fine laces, were brought over from Europe at his expense.

The *Jennings Lace works*, as they are called now, give employment to some six hundred persons, paying out \$175,000 yearly for labor, producing an average of \$600,000 per annum, with a capacity of twice that amount. A large part of the employés in this establishment are women and girls, and the proprietors are very careful in regard to their morals and manners, encouraging them in well-doing. We have not seen, in any establishment in Kings county, neater, more cheerful or more intelligent hands.

Within a few years some other parties in this state have commenced to make laces from the yarn, but to A. G. Jennings is awarded, very generally, the credit of establishing in this country, on a sure basis, the important business of manufacturing lace goods. What has been accomplished is the result of much thought, care and labor, and in this he has been materially assisted by his sons, particularly his son, Warren P. Jennings, the Superintendent of the works.

In regard to quality, their goods greatly surpass the foreign goods, and are sold at a lower price. One

great cause of this is that they conduct all the departments of the work on their own premises. At Nottingham, the head-quarters of the English lace trade, laces are woven by small manufacturers, owning but one or two looms, are then sold to the finisher, who, after finishing them, sells them to the large jobber, and he in turn to his English and foreign customers. Thus there are three profits to be made on the English goods before they come into the hands of the American importer and jobber. At St. Gall, the manufacturing is managed in much the same way. Messrs. Jennings & Sons buy their silk, ready thrown, of the throwster; but all the other processes, such as making the patterns for the laces, weaving them on the lace looms, introducing his new designs by means of the Jacquard apparatus, dyeing, making up, finishing and putting up the goods for the market, are performed in the manufactory.

Lace machinery is very costly. The looms are generally imported from Europe, and cost from \$6,000 to \$10,000 each. A single set of Jacquard card patterns for the Jacquard looms, to make one design for figured lace, costs from \$60 to \$500 each. And there are required for elaborate patterns from 1,500 to 10,000 perforated cards.

Of the disk bobbins used on the lace looms, Messrs. Jennings & Sons use over 100,000.

It has always been a grievance to Mr. Jennings, and justly so, that the Government prevented him from making cotton lace, which is now largely imported, and so greatly undervalued that, really, the nominal duty is no protection to the American manufacturer; while the very fine cotton thread, Nos. 150 to 300, which is spun in England, from Sea Island cotton, is not made here, and is indispensable for its manufacture. This fine cotton is charged with a duty of from 60 to 100 per cent., which is prohibitory. If this duty could be reduced to not more than 10 per cent., the Swiss mulls and fine cotton laces, for which we pay now from \$10,000,000 to \$12,000,000, might be made here of a quality fully equal to the imported goods.

At the present time, Messrs. Jennings' works are not running at anything like their full capacity. Fashion has much to do with this. Spanish lace, of which they have been obliged to carry a large stock to meet the demand, is now going out, and Escorial and other laces are slowly coming in; and, until the demand for the latter is fully established, it is necessary to go slowly.

ABRAHAM GOULD JENNINGS.—The Jennings family is one of the oldest in England. When William the Conqueror ascended the English throne, though he confiscated some of the great fiefs of the Anglo-Saxon nobles, he did not touch the lands of any of the tenants holding feudally under them; and as the Jennings family were men of "peace and plenty," having no desire for political preferment, or liking for the glory gained by civil conflicts and strifes, they remained undisturbed by the great convulsions of the country which resulted from the conquest of it by William of Normandy.

* This factory was destroyed by fire in 1862, and another building erected on the same site.



A. C. Johnson

For six hundred years, they remained among the gentry and commoners of England, wealthy, industrious, and influential agriculturists and manufacturers, loyal to their country and its rulers, but without ambition for place and preferment.

At length, in the contest which led to the dethronement and execution of Charles the First, to one branch of the family, that of Cambridgeshire, in the persons of Sir John Jennyns, his son, Richard Jennings, of Sandridge, and the daughters of the latter, there came the preferment to which they had been so long indifferent. The eldest and youngest daughters of Richard Jennings were: Frances, "La Belle Jennings," Duchess of Tyrconnel, the most beautiful and the purest woman of the courts of Charles II. and James II., and Maid of Honor to the successive Queens of those courts; and Sarah Jennings, the famous Duchess of Marlborough; and the intimate friend and counsellor of Queen Anne.

Richard Jennings left no male heirs, and hence there are none of his lineal descendants now bearing the name of Jennings, though there are very many of his father's, and other families of that name. From some one of these, the subject of this notice claims descent. His earliest ancestor here, Joshua Jennings, was born in England about 1630-1635, and came to Hartford, Conn., about 1645-1647, and removed to Fairfield, Conn., before 1656. He was married at Hartford, December 23d, 1647, to Mary Williams, of that town, and by her had nine children, from the seventh of whom, Isaac Jennings, he traces his lineage. There were in all four generations of the name of Isaac Jennings; the third of that name had, for his fourth child, Abraham Gould Jennings, (better known as Captain Gould Jennings), born in 1781, and one of the most remarkable men of Fairfield county; a brave, grand, noble man, in all the relations of life; a man who feared God, but knew no other fear; who loved his country intensely, and manifested that love in its time of peril. His mother was Abigail Gould, a daughter of Col. Abraham Gould, one of the heroes who fell in the Revolutionary war. His wife was Anna Burr, a daughter of Peter Burr, one of the leading citizens of Fairfield, and a woman of rare intelligence and elevation of character. To this pair, were born ten children, of whom the seventh is the subject of this notice, Abraham Gould Jennings, who was born in Fairfield, Conn., August 28, 1821. His early education was received in the schools of his native town, and under the influences of a cultured and refined home life. In 1836, he came to New York, and became a clerk in the store of his brother-in-law, Mr. J. S. Pierson, then a manufacturer and wholesale dealer in clothing. His character for zeal and diligence in business was so marked, that, in 1844, Mr. Pierson took him into partnership, and they remained as partners till 1857, when Mr. Pierson sold out his interest to Mr. Henry D. Wheeler, and the firm was thenceforward Jennings, Wheeler & Co. In 1845, Mr. Jennings had visited Charleston, South Carolina, and established a branch of their business, which was continued until the outbreak of the Civil War, Mr. Jennings and Mr. Pierson going to Charleston, alternately, every season. The partnership with Mr. Wheeler was dissolved in 1861, and Mr. Jennings continued his business in New York during the war, but on a very moderate scale. In the fall of 1865, he visited the south, and looked up his old customers, some of whom owed him large sums. Many of them were scattered, many dead, and all the survivors greatly impoverished.

Meanwhile, he was looking for some other legitimate business, in which to establish himself. He found this, in a small lace factory in Jersey City, as we have elsewhere narrated. He purchased this small factory, with its few lace

machines, in the autumn of 1867, and by diligent study of the business, in all its details, and by his decided enterprise, made himself master of it and extended it, both as to the variety and quantity of the good made, as rapidly as the demands of the trade required and his means would justify.

In the spring of 1868, he removed his works to Barclay street and Park Place, New York city, and having won the confidence of the trade, still further extended his business. In 1870, he went over to England and studied the business there, purchasing lace machines, which could not then be built here, and bringing back with him skilled operatives, designers and draughtsmen. His eldest son has visited Europe repeatedly and has made himself very thoroughly familiar with every step of the processes of lace making by machinery, and with the complicated machines which are used in its manufacture.

In 1871, he purchased the site of his present works, and erected his large factory thereon, which has been repeatedly enlarged, and is now known, all over the country, as the "Jennings Lace Works." Though, perhaps, not the very first manufacturer of lace, in this country, by machinery, he deserves the credit of having been the first to conduct it on a large scale, and to make it one of our great industries. Others have followed in his wake, but none have equalled him in the extent and excellence of their production. He acknowledges, in this matter, the assistance he has received from his eldest son and partner, Mr. Warren Pierson Jennings, who, by his designs and inventions of new meshes, new fabrics, and improvements in the Jacquard looms, has greatly improved and facilitated the manufacture. Mr. Jennings has been very happy in his family. He was married in April, 1851, to Miss Cecilia M. Douglas, daughter of J. P. Douglas, Esq., of New York city, and of the seven children which have been the issue of this marriage, five survive—three sons and two daughters. The eldest daughter was married in 1876. Of the eldest son we have already spoken. The second son, Oliver Taylor Jennings, has also been a partner since 1883. For five years previous to that time he had been in charge of a large property of 4,000 acres of mining, agricultural and timber lands—"The Glades," Hall county, Georgia,—owned by his father, where he had laid the foundations of a flourishing settlement.

Mr. Jennings united with the Presbyterian Church under the pastoral care of Rev. I. S. Spencer, D. D., in 1839, and has been actively engaged in Sunday school instruction since that time. He speaks in high terms of the benefits which he received, intellectually and spiritually, from Dr. Spencer's preaching and teaching. He has been a member of the Clinton avenue Congregational church since 1873. Mrs. Jennings is a member of the same church, and being like-minded with her husband, has been very useful and active in all church work. Mr. Jennings has been through life a close student, and his knowledge of the Scriptures is both thorough and profound. Some years since, he compiled and published a small volume, *The Last Days of Christ; or, an Account of the Great Atonement*. He has a very large and choice library, and a remarkable collection of early editions of the Scriptures.

He has never been an active politician, or an office-seeker or office-holder. His early sympathies were with the Webster or old line Whigs; since the war, he has often, though not always, voted with the Democrats.

In all the circles of trade and business, Mr. Jennings has the reputation of being an energetic, industrious, persevering, honest and straightforward man, of large sympathies, and of genial temper. He may be impulsive, but he is sure to be just.

On the subject of lace-making, only Levenstein & Co. are mentioned in the census. They are understood to have given up the manufacture of trimming laces, though they have a stock on hand, and are importing some. Their principal product now is silk mitts. Their product does not probably exceed \$150,000, and their present force of operatives is said not to be large.

Henry Sour makes hair nets, and perhaps some Nottingham lace in a small way.

Cobley Bros. manufacture belt ribbons, and those dress trimmings which are wholly of silk. Their establishment is not very large.

August Moll, J. S. Steinborn and J. Naul, manufacture braids and cords; Jacob Will, hat cords; William K. ... manufactures and dress trimmings on a large scale; The Manchester Gimp Co., Furniture gimps. Messrs. G. L. Kelty & Co., S. McLure, and A. Maynard & Co., are manufacturers of upholstery trimmings, furniture coverings, and curtain materials, cords, gimps, tassels, fringes, etc.; McLure makes also dress-trimmings; E. Estberg, makes shade-tassels and cords. The last four are all, we believe, doing a large business. Messrs. Kelty & Co., and McLure certainly are, but their products for the most part belong to the class of mixed textiles, as they contain cotton, linen, worsted, woolen or jute in combination with silk. The combined statistics of the two classes would show about 1,350 hands, and a total out-put exceeding \$1,600,000.

SUBSECTION I.—Woolen and Cotton Goods; Knit Goods.

The production of these goods in Kings county is not large. In woolen goods, we find two houses, both now defunct, James H. Prentice and W. E. Doubleday, who were formerly engaged in the manufacture of felted skirts; A. Moll, braids, whom we have already noticed under silk goods; Messrs. J. & H. Hutchinson, manufacturers of coir and wool-bordered mats, already mentioned under "Mats and Matting;" the Planet Carpet Mills, which mingle a very little wool with a great deal of jute, and which are already noticed under "Jute and Jute Butts;" and that mythical wool-hat factory, alluded to under "Hats and Caps." Messrs. Jennings & Sons also manufacture what they call "Pearl Lace Shawls, Nubias," etc., in fine worsted, and have introduced many new improvements and inventions in these goods.

Of "knitting works," there are 7 houses named in the directory, of which one certainly, and possibly two, are defunct, and the others very small, except the Island City Knitting Mills in South Fifth street, E. D.

The cotton manufacture is a little larger, reporting four or five establishments, of which the Union Print Works, of Johnson and Union avenues, and Joseph T. Perkins, cotton bagging, and possibly the Hunt Bagging Co., are the largest. Goodman & Mayer batting, and Louis Mayer, cotton goods, are also named. The entire out-put of the woolen, cotton and knit goods manufactures can hardly exceed \$400,000.

SECTION XXXIX.

Soap Manufacture.

The soap production of Brooklyn is heavy. Charles S. Higgins's is the largest. The cut on the opposite page represents his soap works. The business was started in 1842 by Wm. O. Higgins (since deceased), father of the present proprietor. Necessarily, as is the case with all new undertakings, the business was started in a very small way, and at that time the facilities in the way of machinery was very meagre. The quantity of soap then manufactured was small. The demand for soaps of Charles S. Higgins's make has steadily increased, and at the present time the factory covers about 20 full city lots. The factory is supplied with the newest and best machinery, enabling the proprietor to produce millions of pounds of soap per year. Within the past two years the manufacture of toilet soaps have been added to the business.

The manufacturer next in rank is Thomas Gill, manufacturer of patent borax soaps, 223 to 229 Kent avenue; office, No. 14 Park place, New York. Mr. Gill, who was previously a dry goods jobber in New York, commenced making soap at No. 55 Atlantic avenue, in 1874. In 1880, he moved to Kent avenue, where a steam engine and sixteen hands now turn out 20,000 pounds per day, amounting to \$250,000 a year. His indignation was early aroused by the impure material and the adulterations so largely used in many cases in the production of this household necessity, and he prides himself in using no kinds of grease but pure tallow, in any of his products, from the laundry to the finest toilet soaps.

John H. Doscher and Karl R. Kichner, corner of Raymond and Boliver streets, are extensive manufacturers of laundry and toilet soaps, and dealers in starch, candles and sal soda. They have \$115,000 capital invested; employ 40 workmen at a cost of \$30,000 per year, and do an annual business of \$200,000. The establishment dates back to 1860.

James A. Barnett & Co., 82 Wallabout street, commenced the manufacture of Soap in 1878. They use steam power; employ 12 hands, and turn out a production of \$80,000 per year.

Brewster, Rutherford & Co., 46 Kent avenue, were entirely "too busy" to give any attention to our repeated inquiries for information.

SECTION XL.

Musical Instruments.

The census statistics are: 1. Musical instruments and materials (not specified), 9 establishments; \$13,500 capital; 46 hands; \$20,543 wages; \$56,483 materials; \$102,724 annual product. 2. Musical instruments, organs and materials; 4 establishments; \$7,700 capital; 8 hands; \$6,139 wages; \$4,237 materials; \$18,076 annual product. 3. Musical instruments, pianos and materials, 11 estab-



CHARLES S. HIGGINS' SOAP MANUFACTORY.

lishments; \$195,775 capital; 124 hands; \$68,984 wages; \$122,810 materials; \$252,983 annual product—a total for all of 178 hands, and \$379,783 annual product.

The manufacture of musical instruments is a large and constantly growing interest in this city. In the manufacture and repairs of pianos, 11 firms are engaged, with an aggregate capital of \$350,000; 200 hands; \$12,000 annual wages; consuming materials worth \$14,000, and turning out an annual product of \$400,000. The largest manufacturer is *F. G. Smith*, successor, in 1867, to *W. B. Bradbury*, whose factory is on Raymond street, corner of Willoughby. Within the comparatively few years since American makers commenced the manufacture of piano-fortes, a separate trade in the various different parts, such as the action, iron frames, strings, and wood-work has grown up. Piano manufacturers can buy these various parts cheaper and better, in general, than they can make them. Mr. Smith brings his cases from his factory in Leominster, Mass. Here they are polished and finished, the iron frame and action inserted, the strings put on and adjusted and the instrument tuned. The pull of the strings of a concert grand being equal to about 17 tons, the frames must necessarily be made solid and strong to resist it. The iron bed-plate under the strings is

screwed fast to maple plank, three or four inches in thickness, into which the tuning pins are sunk. The sounding board, of deal or spruce, is just beneath the strings in the grand and square instruments, and behind in the uprights.

The "action" consists of the keys, the felt-covered hammers which strike the strings, and a series of felt dampers which fall on the strings to stop the vibrations when the keys are released. These main parts are similar in all pianos. Mr. Smith has some \$300,000 invested in the business and gives employment to 120 men. Besides the manufacture of instruments he also has a department for repairing.

The establishment of *C. W. Held, Jr.*, 114 Livingston street, is also well worthy of notice.

This gentleman happened to be the only one of several brothers that "took" to the occupation of the father. The special business of the father was the repairing and tuning of pianos. He was for years in the employ of the Steinways and Weber, in New York, and afterwards in the same business in this city. The son can remember his liking for the same occupation when he was a lad of only eight years, and this liking was encouraged and confirmed in after years by the father's careful and efficient instruction. He used to say, the



CHAS. W. HELD'S PIANO WAREHOUSES.

leisure time between school hours in assisting his father, and thus became familiar with all branches of the work while at an early age. While still in his teens he was connected with prominent establishments in the metropolis, and was depended upon to perform work not often entrusted to so young a craftsman.

In 1865, he commenced business on his own account in Brooklyn, at 163 Atlantic avenue. In 1870, his place was located on Joralemon street, upon the spot on which the Municipal Building now stands. For the past ten years he has been commodiously situated at 114 Livingston street, corner of Boerum Place. The sign is inscribed, "Chas. W. Held, Jr., Piano Tuning Establishment." It is notable that this was the first sign of the kind ever exhibited in this city, and this still remains the only place in Brooklyn at which piano repairing is made a specialty. The concentration of his attention upon a particular line of work, a natural fitness, to which is added the valuable practical experience of years of study and labor, and the enthusiasm of a man who loves his calling, have led to success. Additions to his space have been made of necessity, from time to time, to accommodate a constantly growing business; and within a year the entire first floor of the building, which is double its original size, has been thrown into one room for the exhibition of pianos and organs. The Kranich and Bach pianos, for which he is agent, are especially and personally selected by him for his Brooklyn patrons. The advantage of such a selection by a conscientious expert, is too obvious to call for comment. The second and third floors are occupied as repair shops.

An enviable reputation has been acquired for this establishment, by strict attention to the old adage that "Whatever is worth doing at all, is worth doing well." When an instrument is taken for repairs, it is never suffered to leave the shop until restored to perfect order and put in a condition to remain so for years. This is no easy task. In fact, it is more difficult to repair an instrument than manufacture a new one. A thorough knowledge of the greatly varying methods of construction in instruments made twenty years ago, or recently, is absolutely required to repair them successfully. The strain of the wires upon modern pianos is equal to a pressure of from thirty to forty-five thousand pounds, or an average force of one hundred and eighty pounds to each wire. One needs little mechanical genius to understand that the accurate adjustment of a net-work of wires at such a tension, is work only for a skilled hand and an able ear to detect the slightest discord. Pianos are often sent back to the makers to be repaired, but an expert is seldom found to manipulate them at the manufactories. The reason of this is found in the fact that each part of the manufacture has its special workers, and it is rare indeed that one is met with familiar with all of the eight or ten distinct branches, as a successful repairer must be.

Other piano manufacturers are *Jacob Bros.*, 55 Bushwick avenue, *J. Schuladen*, 133 N. 1st street, and *William Wall*, 656 DeKalb avenue.

Church organs are built by the following firms: *Reuben Midmer*, 97 Steuben street, *J. M. Mandeville*, 417 Atlantic avenue, *Edward Hechinger*, 110 Troutman street, *E. R. Lake*, 529 Grand street, *C. J. O'Rielly*, 470 Baltic street, *G. H. Whitten*, 37 DeKalb avenue. The aggregate of capital is \$30,000; there are 35 men employed, earning \$18,000, and manufacturing instruments of the value of \$40,000. The work of Brooklyn organ builders ranks high, though it is not an old established industry in the city. With the exception of the metal work, the process of manufacture is carried on by each builder in his own place. The foundation, the bellows, is a large oblong box, with top, bottom and middle partition of wood, sides and ends made of leather, to be flexible. The "windways" conduct the air up to a large wind chest, into which the various pipe are set. A valve below each pipe is drawn down by the key, admitting wind into the pipe; a "lip" in an opening in the side of the pipe causes the column of air to vibrate and give a sound proportioned to the size and length of the tube. Various "stops" or mechanical arrangements admit the wind to the different sets of pipes, some wood, some metal. Generally at the top of the instrument is the "swell," enclosed in a box with shutters in front, which can be opened and closed at will to vary the volume of sound. Light wooden rods and wires connect the keys with their corresponding pipes.

Brooklyn also has several makers of guitars, banjos, tambourines, drums, and the smaller musical instru-

ments. One of the oldest is *George Velsor & Sons*, 122 Grand street, established 1852, who has 12 employees, and whose annual sales are \$30,000; *George Cloos*, of 39 Stagg street, established 1865, has 10 employees, manufactures and sells about \$10,000 worth annually. Other makers are: *W. R. Cornell*, 251 Grand street; *F. Gretsch*, 379 Broadway; *Hosens & Bro.*, 94 Grand street; *H. Lawrence*, 235 Ainslie street; *A. L. Ludwig*, 166 4th street, E. D.; *R. H. Mayland* and *E. J. Stanley*, 24 Myrtle avenue; *A. Pfander*, 683 Broadway; *E. Schoen*, 93 Graham avenue; *G. P. Mein*, drums, 253 Fourth street, E. D., and *W. Schultz*, 194½ Fulton street.

The 12 establishments have a capital of \$20,000, employ 60 hands, earning \$30,000, and manufacturing goods worth \$150,000 annually.

SECTION XLII.

Roofing and Roofing Materials.

The census statistics are: 29 establishments; \$82,975 capital; 199 hands; \$98,443 wages; \$160,974 material; \$447,259 annual product. This business has grown very rapidly in the past four years. There are now 60 firms manufacturing roofs and roofing material in Brooklyn. The largest number make the gravel or tarred paper, coal tar and gravel roofs; some substitute asphalt for the tar; others use cement, and others still plastic slate. Two or three firms make the last a specialty; three, and perhaps four, use tin only; three use slate, and sometimes tin; one uses a compound of asbestos. Besides these 60, there are agents of several New York houses who do business in Brooklyn. The builders of speculation houses generally prefer the gravel roofs, but they are very poor roofs, and very heavy. The leading gravel roofers are: *Chas. S. Buell*; *Comins & Evans*; *Anglo-American Roofing Company*; *Empire Roofing Works*; *Long Island Improved Roofing Company*; *Brooklyn Roofing Company*; *David Fitzgerald*; *New York Roofing Company*; *E. M. Shute*; *Ellery & Garrison*, 520 DeKalb avenue, roofers and manufacturers of Ellery's India Rubber Paint, established at New York in 1857, etc., etc.

The cement men are *Hamilton Roofing and Cement Company*, *Comins & Evans*.

Plastic slate, *Polhemus & Matthews*, *Edward Van Orden & Co.*

Tin and slate, *John Davis*, *William Martin*, *James White*, *T. Vincent*, *E. M. Shute*, etc., etc.

There are about 350 hands, and the out-put exceeds \$1,000,000 in all kinds of roofs.

SECTION XLIII.

Dyeing and Cleaning—Carpet Cleaning.

The census gives: 20 establishments; \$23,250 capital; 48 hands; \$22,349 wages; \$178,667 material; \$236,007 annual product. This leaves out the carpet cleaning

by machinery entirely, and gives a false impression in regard to cleaning of garments. The value of the clothing, goods or carpets to be cleaned or dyed is not a part of the manufacture, and should not be counted.

There are 59 dyers, bleachers and scourers in Brooklyn, and their entire capital in their legitimate business does not amount to over \$60,000, and their receipts for their work may be \$200,000. They employ about 112 hands.

There are 18 carpet cleaners, of whom 6 are companies, using steam and machinery for cleaning. One calls itself the *Open Air Carpet Cleaning Company*. The rest do their carpet cleaning with a stick, and there are 50 more at least who clean carpets in the same way. The carpet cleaning companies have large establishments, and make money. One of these claims to have cleared over \$100,000 last year. This was the *New York Patent Steam Carpet Beating Company*. Several clean by steam, and two use naphtha or benzine.

A. P. Stevens & Co., 247-251 Willoughby street, established 1871; capital, about \$10,000; average number of hands, 20; wages annually paid, about \$6,000.

SECTION XLIII.

Flouring and Feed Mills.

The manufacture of flouring and grist mill products has long maintained a good position here, notwithstanding many misfortunes, accidents and failures. It is a business conducted on very close margin, and the varying price of grain and flour renders the profits somewhat precarious. It is not materially increasing, either in Kings or New York county, the western flour from the immense mills of Minneapolis, St. Paul, Chicago, and St. Louis, competing so strongly with the eastern products as to make the profits very small. According to the census of 1880, the net profit in that year could not have exceeded three per cent.

The statistics of 1880 for the county were: Nine establishments, employing \$662,500 capital and 170 hands, paying out \$98,655 wages, using \$2,615,270 of raw material, and producing flour, etc., to the value of \$2,806,503. New York nearly doubled these figures, her establishments numbering 15, and her product \$6,267,669, with a margin of profit of about 8 per cent. net. The figures for Kings county in 1870 were: Five establishments, 138 hands, \$645,000 capital, \$94,000 wages, \$2,475,700 annual product.

There are but two flouring mills in Brooklyn; each does a large, prosperous business. The largest is at the foot of Fulton street, and is owned and run by the *Jewell Milling Company*. Theodore E. Jewell and F. E. Smith bought this mill in 1855, and operated it in partnership till the death of Mr. Jewell, in 1864, when his sons, Herbert S. and Edward M., took charge of the business, as Jewell Brothers, till 1880. At this time the present company was organized. The officers are: H. W. Slocum, *President*; G. P. Sheldon, *Treas-*

... M. J. ... H. S. Jewell, *Man-*
... flouring mill is near the foot of Broad-
way, E. D., and is owned and operated by *Tonjes,*
... It was built in 1869 by Tonjes, Hoeft
& Co., who conducted the business till the death
of Mr. Hoeft, in 1876, when Mr. Moller became a
partner, and the present firm was formed.

In 1881, the mill was thoroughly refitted, including
the addition of machinery for the Hungarian New
Process System. A steam engine of 250 horse power,
and 60 men, are the working force that manufacture
600 barrels of flour per day, which, with the feed,
make an annual production of \$1,250,000. This firm
make a specialty of preparing flour for tropical coun-
tries, and their products go largely to South America,
the West Indies, &c., &c.

Marsh, White & Co., proprietors of the *Manhattan*
Mills and Elevator, at the foot of North 5th street, do
the largest mill and feed business in Brooklyn, and
probably the largest in the State. They were first
established in New York, and came to Brooklyn in 1874.
They use steam engines of 250 horse power, which
drive 5 run of stone and their grain elevator, which
handles 5,000 bushels per hour. They employ 60
hands, grind 2,500 bags of feed daily, which is less
than one-quarter of what passes through their establish-
ment to their customers each 24 hours, the total
product of their annual business being over \$3,000,000.

The other members of the firm are John H. Fort and
George T. Bowler. They own 800 feet of water front
on the East river.

The extensive elevator, mills, and feed establishment
of *S. W. Bowne*, on Gowanus canal, near Hamilton
avenue, originated with S. W. Bowne & Co. in 1867.
At first they made hay and straw, leading articles, but
since the completion of the mills and elevator, Indian
meal, feed, and oats have come to the front. To drive
the elevator and three run of stone, 100 horse power of
steam is required. Twenty-five (25) hands are em-
ployed, and 500 bags of meal are ground daily. The
sales for the past year have been \$750,000. In the
spring of 1883, William Bowne retired from the firm,

leaving his brother, S. W. Bowne, sole proprietor. Mr.
Bowne owns 250 feet frontage on the canal, on which
he is constantly building and adding improvements.

There are in Brooklyn several mills that grind corn
and the coarse grains for meal and feed. The *Walla-*
bout Mills and Elevators, at the foot of Taylor street,
are among the foremost. They were established by
John A. Byers, the present proprietor, in 1872. An
engine of 225-horse power and 50 men are kept in con-
stant employment, and the business is extensive.

Shaw & Truesdell have a similar establishment on
Second street and Gowanus canal. It was built by
Mr. Shaw in 1881, and run by Sergeant & Shaw till
May 1, 1883, when Mr. Sergeant was succeeded by
Mr. Truesdell. Sufficient steam power to operate 3
run of stone and the elevators, and a force of 20 hands,
are the executive agencies of a business that, though
but three years old, aggregates a half million dollars
per year.

D. D. Mangum, at the foot of Degraw street,
started, in 1872, a mill for grinding corn for family
use and for horse feed. He has 4 run of stone, em-
ploys 20 hands, making 30,000 pounds of corn meal
per day; annual products, \$125,000. His specialty is
grinding feed for street railroad horses.

SECTION XLIV.

Brooms, Brushes, etc.

The census statistics are: 33 establishments; \$69,375
capital; 210 hands; \$59,372 wages; \$96,074 material
\$207,792 annual product. The directory gives 13
broom-makers, and 35 brush-makers, of whom one
makes only brush backs.

SECTION XLV.

Mats, Matting and Rugs.

The census of 1880 reports, in Brooklyn, 7 establish-
ments for the manufacture of *Mats and Matting*, with
\$193,650 capital, 265 hands (297 as the largest number
employed at one time), \$116,029 paid as wages, using
material valued at \$203,427, and producing \$385,340
annually.

The Business Directory for 1882 reported 14 distinct
firms, and that for 1883 reported 12 firms, not includ-
ing, in either case, a manufacturer of wood matting.

Neither report was, probably, quite correct; though,
in regard to the number of establishments, the directory
was nearer right than the census; and the census was
also wrong in its other statistics.

Mats, matting and rugs may be of various material,
and the material of which they are composed settles
the question whether they are imported or manufac-
tured here. The mats and rugs of sheep skin, Angora
goat skin, or skins of other animals, which used to
be entirely imported, are now mostly manufactured here.
Chinese and Japanese matting, which is made from

a grass or straw found in those countries, is always, if of good quality, an imported article. The cheap labor of those countries gives them the advantage in articles where labor is the great item in the production.

But the mats and matting and the door-mats of coir, cocoa fibre, agave, Sisal and Tampico, though a few of them were formerly imported, are now made entirely here, though of imported material. This branch of manufacture is carried on very extensively in Kings county, the largest manufacturer of it in the United States being found here.

Wood matting is also made here, to some extent, by a single manufacturer. We believe that rope mats and matting are also produced here, at least in the penitentiary; but our information on that subject is not positive. For many years this branch of mat and matting manufacture has been considered the perquisite of the blind asylums and homes.

The principal product of this class of goods, made here, is that manufactured from coir and cocoa fibre, and it has been carried to great perfection. The founder of this business in the United States was Mr. *Edmond Greenland*, a native of England, who emigrated to the United States when ten years of age, and who established a small factory for its production in Kosciusko street, in 1855, but removed his factory to 143 Spencer street in 1875, to obtain larger quarters, though he retained also the old factory in Kosciusko street till 1881, doing a part of his work there. His material was wholly imported from Calcutta.

The *American Cocoa Matting Company* was formed by Joseph Wild & Co., in 1875. From about that date there has been a very marked improvement in its goods. The mats are now made with the initials, date or number of the house or office, interwoven in bold and plain letters on their surface, as a protection against thieves. They are far superior to any other goods of the kind manufactured either in Europe or the United States. Mr. Edmond Greenland died in August, 1883, at the age of 62 years, but his business is still carried on with great energy by the surviving partners. The company employ more than 150 hands. Their annual product is somewhat more than \$250,000, and is rapidly increasing.

Joseph Wild & Co., have two factories, Nos. 202 to 218 Kosciusko street, in which they make crumb cloths, felt and woven druggets, established 1882; also, sheep skin and Lapland rugs, established 1877. These factories together employ 90 hands, with an out-put of \$150,000 a year.

Another of the members of the Greenland family, Frank or Francis Greenland, is engaged in the same manufacture at 60 Gold street, near Water street. Here also are made all the varieties of mats, matting and rugs from Calcutta coir and cocoa fibre. They employ 80 hands, and turn out about \$125,000 worth of goods.

J. & H. Hutchison, mat and rug manufacturers, 404 North Second street, E. D., started in 1854. John Hutchison came from Scotland in 1833, where he had been a carpet manufacturer. He continued in the business he had chosen here, till his death in 1877. Since then his son Hugh has been sole proprietor. He employs 65 men, 25-horse steam power, and is the largest wool-border mat maker in the United States. He was the first in this country to shear mats by machinery. Two years ago he introduced the manufacture of fancy rugs, from imported China goat skins. His business the past year has exceeded \$90,000. Mr. Hutchison has always been an inventor, and much of the machinery in his factory owes its efficiency to his skill of construction or modification. Other manufacturers in the same line are: *Thomas Brown & Co.*, 138 South Fourth street; *Cowley Bros.*, 461 Lorimer street; *Richard D. Crotley, Jr.*, 503 Marcy avenue; *William Doggrell*, 864 Hancock street and 86 Harvard avenue; *Thomas McKenna*, Conselyea street; *C. Humboldt*; *R. H. Nutt's Son & Co.*, 18 Water street; *Bernard Sharkey*, 204 Middlelon street, and two or three smaller shops.

Samuel Lewis, 14-18 Lorimer street, is, so far as we are aware, the only manufacturer of wood matting for kitchens, bath rooms, railroad cars, ferry boats, saloons, etc., etc., in Brooklyn. He commenced business in 1870; has a capital of \$15,000; employs 12 hands; pays about \$5,000 wages; his annual product is \$20,000, or more.

We can only estimate roughly the entire product of this industry. The firms or companies we have named must employ not less than 360 hands, and their annual product must reach at least \$750,000.

SECTION XLVI.

Plumbing Materials and Gas Fixtures.

There are seven manufacturers of *plumbing materials* whose factories are in Brooklyn, viz., *Brandeis & Son*, established 1859, by the senior partner (a native of France), who have a large factory, with steam power and 60 to 80 hands, and do not only an extensive domestic trade, but their operations extend over many foreign countries; *J. Conway*, *Geo. D. Kimber & Son*; *Wm. H. Storey*; *Ronald & Co.*, a large house; *Henry McShane & Co.*, and *B. E. Valentine*. The whole seven probably do a business of about \$600,000; of which *Ronald & Co.* and *Brandeis & Son*, do about the largest share.

The census statistics of plumbing and gasfitting are: 216 establishments; \$352,890 capital; 691 hands; \$377,195 wages; \$701,530 material; \$1,399,092 annual product. We must not, however, put much faith in these statistics. Plumbers in general could not if they would, and would not if they could, tell exactly what they pay for material or what their annual product is. It is

making up the steam-fitters as anything less. Some of them do their outside work, but not altogether what is called new work. Some do only repairing, or old work. Some attend to gas-fitting only. Some to sewers and sewer connections only.

Gas-fixture manufactures are not in the census, but ought to be. There are four houses, of which the *W. A. Fishberg Manufacturing Company*, 275 State street, is much the largest, and the third largest in the United States, in this line. It was established in 1865, and incorporated as a company in 1881; employs large steam power and 200 hands, and manufactures some of the finest and most artistic work in the country; their products finding a large sale abroad as well as at home. The others are *May & Barron*, 225 State street, *Sedman & Nichol*, 95 Boerum street, and *Richard Trigge*, 6 Flatbush avenue.

SECTION XLVII.

Photographic Materials.

There are only two houses here who manufacture photographic materials, sensitized paper, etc., viz., *William H. Lewis*, 121 Manhattan avenue, E. D., and *Lucina H. Wilcox*, 236 Fulton street. The census statistics of photographing are: 35 establishments; \$88,950 capital; 84 hands; \$37,455 wages; \$26,685 material; \$141,947 product. Photography itself, in Brooklyn, we have classed among the arts, in connection with our chapter on *Art in Brooklyn*.

SECTION XLVIII.

Dentists' Materials—Mechanical Dentistry.

There are four manufacturers of dentists' materials, one of whom, *E. Bagott*, 84 Pearl street, Brooklyn, makes only dental instruments. The other three are the *S. S. White Dental Manufacturing Company*, 313 Fulton street, a very large house; *A. J. Nickolds*, 235 Washington street, and *Edward Kearsing*, 101 Hoyt street.

Some of the dentists manufacture their own tools and plates, but none of them make teeth. The *S. S. White Company* make them for the whole country.

The statistics of mechanical dentistry in the census are: 4 establishments; \$80,200 capital; 41 hands; \$17,741 wages; \$28,521 material; \$137,271 annual product. The directory has 175 dental firms; but, as the largest ones do from \$2,000 a year are very common, and the census estimate must be very far below.

SECTION XLIX.

Art Products.

There is not much to be said about this. We have 75 artists in Brooklyn, but not all of them make any art products. There are five dealers in artists' materials,



M. J. SEELIG.

some of whom make them. One—*Charles Mellish*, of 22 Flatbush avenue—manufactures bronzes; another—*Joseph A. Stoll*, a Swiss, at 588 Grand street, E. D.—manufactures church statuary, etc., commenced in 1866; capital, about \$6,500; annual product, \$2,000–\$3,000. The Art Establishment of *Mr. Seelig*, 115–121 Maujer street, Williamsburgh, is a most interesting collection of objects of artistic interest.

M. J. SEELIG, founder of the Art Establishment, was born December 25th, 1809, at Annaberg, in Saxony. As a child, he often visited the family of a wood-turner, in which, near Christmas, various play-things were made, not only from such materials as a turner uses, but also from plastic materials. Here the boy made his first attempts at modeling, and also became very fond of carving. Following this inclination, he learned the turners' trade, and after finishing his apprenticeship, visited Switzerland, finding in Berne congenial employment in carving decorated flower-baskets.

In the spring of 1828, he went to Italy, and visited the art-collections of the principal cities, Genoa, Florence, Rome, &c., feeling special interest in the sculptures, and devoting most of his leisure time to carving in ivory.

On account of frequent attacks of fever, he returned home, where he soon recovered, and then went to Warsaw. The revolution, which occurred in 1830, and in which he was wounded, drove him from this city, after he had spent six weeks in the hospital.

Returning to Saxony and visiting Dresden, he received from Councillor Böttcher, Director of Art Collections, permission to model in the Mengs Museum, under the direction of the Mint-engraver, König.

Six months later, he entered the *atelier* of Professor Rietschel, and at the same time became a pupil in the Art Academy, thereby becoming entitled to attend the lectures on anatomy and art history, and to model in the Art Hall.

There were, at that time, in Rietschel's *atelier*, the monument of King Augustus and several other important works.

After a four years' sojourn in Dresden, he went to Professor Schwanthaler, in Munich, where some of the most important of the works of art, which now adorn the city, were in progress, and was engaged upon the statuary and other decora-

tions of the Pinakothek, the Glyptothek, the Walhalla, the Royal Palace, &c.

In the year 1839, Professor Semper, who had charge of the building of the new theater, called him to Dresden and gave him commissions for various ornaments and figures, among them the great Gothic fountain on Post-Office Square.

On the discovery of galvano-plastic by Jacobi in Petersburg, Mr. Seelig applied himself with great zeal to this art, and succeeded in producing the first important work of this kind, namely, a life-size statue of the heavy-robed Muse, Melpomene, and received from the Industrial Fair in Dresden the first prize, the grand gold medal, of the value of twenty-five ducats.

A prize of five hundred thalers had been offered in Prussia, but it was refused to Mr. Seelig on the ground that he was not a Prussian.

After a long series of experiments, he discovered a material for moulds, which resists the action of alkaline solutions, and hence is adapted to the manufacture of gold and silver ornaments.

By the use of this invention, he produced the beaker which General Bewlaqua received as a present from the *Communal Guard*.

He also furnished to Baron Hackwitz, in Berlin, the form (mould) for the shield of Achilles, which, by the king's request, the Baron had undertaken to produce from silver, as a present to Queen Victoria.

On the perfection of this process depended its sale, at the price of two thousand thalers. It fully answered all requirements, but only the first payment, 500 thalers, was received, as Baron Hackwitz was ruined by the Berlin revolution.

In addition to his labors in gold and silver, he gave much attention to bronze and zinc castings.

The unsuccessful revolution of 1849, in which he conscientiously took part, closed his career in Europe.

Arriving in New York in 1851, he established himself in Williamsburgh, and applied himself exclusively to the production of zinc statuary and ornamentation, for the twofold reason that no similar establishment existed there, and that his method was far superior to the usual ones.

In the year 1852, he received the gold medal for an alto-relievo zinc casting at the Castle Garden Fair; and soon thereafter numerous commissions for decorations for the Crystal Palace and for dwellings and business houses.

Laboring under the disadvantages of a want of acquaintance with the country and the English language, his business was not very remunerative; he became involved in a lawsuit with an agent, which lasted for five years; then came the disastrous years, 1857-8, and not till 1861 were the conditions again such as to infuse life into such undertakings as his.

At this time, he produced two figures intended as garden decorations, namely, "Spring" and "Autumn." These were very favorably received, and the artist was cheered at finding his new home as appreciative of beauty as is the old Fatherland.

Under the influence of this stimulus, his models increased from month to month and year to year, until his establishment is a veritable museum, containing not only original conceptions, but also copies of the most celebrated statues of antiquity.

SECTION I.

Awnings and Tents and Sail Making.

The directory has 29 of these, including *decks, lanterns, awnings, tents*, decorative flags, sails, horse, wagon, express and truck covers. *J. Spencer Turner,*

Cobb & Co., Fred. Curren, Christopher Luhrs, R. Went, Charles Kessel and Robert D. Thornton & Co., are said to be the largest; also *Wm. H. Lathrop*, 40 Court street. The census statistics are: 12 establishments; \$7,200 capital; 22 hands; \$9,440 wages; \$14,549 material; \$36,330 annual product. If this product were multiplied by 3 it would be very near the truth.

JOHN SPENCER TURNER was born in Philadelphia, March 3d, 1830, and removed to Chicago, with his father's family, in 1835. He attended such public schools as were in vogue there at that time, and at the age of fifteen or sixteen entered the service of Messrs. Payson & Rabb, sail makers and ship chandlers. He speedily became an expert sail cutter, and within two years had been advanced to the position of chief cutter and foreman of the sail department of their business. In this special department he was soon admitted to a partnership, having come to be regarded as the best sail cutter west of New York, and having obtained control of a not inconsiderable trade. In time, Mr. Payson sold his interest in the house to Mr. Gilbert Hubbard, who, with Mr. Rabb, continued the business under the firm name of Gilbert Hubbard & Co. At the death of Mr. Rabb, Mr. Turner was enabled to purchase his interest in the business on such favorable terms that he soon thereafter became a full partner in the concern, the name of the firm remaining unchanged.

Now it was that Mr. Turner's conspicuous business capacity was for the first time made available. Gradually the management of the affairs of the firm passed almost entirely into his hands. He was more pushing and progressive than either of his partners, and his enterprise and popularity with the trade was such that the business subsequently assumed proportions of which the old, conservative owners had scarcely dreamed, Mr. Turner securing profitable contracts from the United States Government, at the outbreak of the Rebellion, for the manufacture and delivery of tents, wagon covers, and other similar army supplies.

In the meantime, Mr. Turner had formed a favorable acquaintance with the old New York house of Theodore Polhemus & Co., dealers in cotton duck and similar goods, whose customer he had been on behalf of his firm for many years, and soon after the close of the war overtures were made to him to remove to New York, and thenceforth devote his business ability and energies to the extension of its already large operations. He consented, and in 1867, he became a member of the then reorganized firm of Brinckerhoff, Turner & Polhemus. At the death of Mr. Theodore Polhemus the firm became, and has since been known as, Brinckerhoff, Turner & Co.

Mr. Turner is also a member and the President of the Greenwood's Company, proprietors of extensive cotton mills at New Hartford, Conn., and he is doubtless one of the most widely known men in his branch of trade in the United States.

Busy as has been the life of Mr. Turner, he has yet found time to inform himself in history, in political economy, and in the sciences, to a degree that renders him the peer, limited as were his early educational advantages, of those who are regarded as foremost in these departments of knowledge. His convictions made him a Republican early in the history of that party; and the affairs of his country, his State and the city of his residence, have a fully recognized claim upon his time and all that is best in his thoughts and investigations. Yet he is not, and has never been a politician, as the term is usually applied, though his counsel



J. Spencer Turner

is often sought by those high in authority and he has repeatedly refused the nomination for places of trust and honor, at one time refusing to stand as the nominee of his party for the Mayoralty of Brooklyn, though strongly urged to do so by those whose support would have been likely to secure his election.

Mr. Turner married Miss Cornelia Eddy, daughter of Dr. John Eddy of Rochester, N. Y., who has borne him five children, four of whom are living. He is a member and regular attendant upon the services of the Strong place Baptist church. As a business man, as a citizen, and as a Christian gentleman, he has ever enjoyed the respect of all who have known him in a more than ordinary degree.

SECTION LI.

Kindling Wood.

Kindling wood industry, though carried on, in some instances, for centuries, and sometimes with great skill and labor. The census statistics are: establishments, 200,000; capital, \$90,000; hands, 1,000,000; value of products, \$1,000,000; annual production, \$1,000,000. The industry has not yet established, but several of them are now in process. The *National Chemical Wood Preserving Co.* (Dr. Safford Co.) does a business of nearly \$1,000,000. *Leaky Water, Frost, etc.*, do a large business. *Leaky Water* also several of the small ones of it have been in wood. The product is not yet known.

SECTION LII.

Refrigerating and Artificial Ice Machines.

There is only one establishment in Kings county which is engaged in the manufacture of these machines—the *Mixer and Byrnes Improved Ice and Refrigerating Machine*. It is solely the invention of these gentlemen, and may be described as an "Ammonia-Compression Machine," the peculiar features of which consist in the oil or liquid piston used in compressing the gas, which makes the most complete and only perfect compression which has been, or is likely to be, used for gas; showing by indicator card, the compression of over ninety-nine per cent. of all the gas taken into the cylinder; and in this machine only, at each stroke of the pump, a small quantity of oil (the oil specially prepared for this machine being always used) is passed through with the gas, cooling, perfectly lubricating all parts of the pump, and effectually sealing the valves and piston against leakage, and escape or return of the gas.

From their extended and successful experience, these gentlemen have been able not only to thoroughly comprehend and meet the wants of the trade, but to combine in their improved machine, all the desired requisites, and at a greatly reduced cost, as compared

with that of the original machines, which they placed in breweries.

The Mixer and Byrnes machines have been introduced in many of the largest breweries of New York, Brooklyn, Newark and Philadelphia. In Brooklyn, the following very large breweries have already introduced them, and others are intending to do so the coming season: *Otto Huber, Ferdinand Munch, S. Liebmans's Sons, H. B. Schermann, Claus Lipsius, and N. Seitz's Son.* The last named brewer is referred to in section XXIII. of this work "Breweries,"

as having introduced this machine with great advantage to his business.

The great advantages offered by these machines to brewers, are: The great saving in the consumption of ice, and in the space hitherto devoted to its storage, which can now be utilized in enlarging their business; the ability to command a much lower temperature than can be produced with ice, and consequently more rapid production of the ale or beer; and finally, far greater cleanliness than was possible with the use of ice.

The leading brewers are so fully satisfied of these advantages, that, after careful investigation, they have introduced the machines, notwithstanding their considerable cost, and in every case they have been more than satisfied with the results produced by their use. Breweries use machines ranging from 30 to 100 horse power.

These machines (the smaller sizes) are also adapted for artificial ice-making, and for all purposes for which a low temperature is demanded, such as provision packing, refrigerating steamships, and the provision rooms of the great hotels, etc.

For these purposes the machines may be from two horse power upwards. Messrs. Mixer and Byrnes are genial and well educated gentlemen, and they take great pleasure in exhibiting these machines to any visitors who take an interest in mechanical processes and are curious to observe the ingenious methods by which any desired degree of cold can be obtained. One of their machines can be seen in operation at their office and works, Nos. 6 and 8 Water street, Brooklyn, and its mode of action will be freely and fully explained by the proprietors to any intelligent visitors.

Miscellaneous Manufactures and Industries.

These are "legion;" their enumeration would fill a volume larger than ours. Among them we can only enumerate, as showing their variety and scope: *Morocco Machinery*, Wm. H. Hughes. *Lace Machinery*, Merrill Bros., 26 First street, E. D. *Bolts*, Greenpoint Bolt Works, 63 and 65 Freeman street, and Gaskell, Greentie & Co. *Zinc Wash-boards*, H. H. Bellows, Kent avenue. *Spiral Spring Hinges*, Lorenzo Rommer, 84 Pearl street. *Cigar Boxes*, Brehm Bros., 212-214 First street, E. D. *Ivory Working, Billiard*

Balls, etc., W. A. Brooks, 10 Atlantic avenue. *Underclothes' Supplies*, Bond & Smith, 12 Beecan Place. *Corsets*, Patrick J. Menahan, 19 Ralph street. *Picture Frames, Art Novelties, etc.*, Davies & Tor, 66 Fourth street; F. J. McCourt, jr., 50 Fourth street; O. W. Young, 20 Front street. *Leather Merchandise*, W. H. Brownell. *Spring Beds*, J. Amalie, 10 Broadway; C. H. Bradford, 99 Broadway, and E. P. Fowler, 61 Greenpoint avenue. E. D. *Shoes and Wear of all kinds*, Chas. Reinhardt, 72 Stagg street, E. D., established 1873. *Briarwood Pipes and Smokers' Articles*, Thos. Krader's Sons, 7 and 9 McKibben street. *Sporting Goods*, John R. Barton (Fish Hooks and Tackle), 13 Adams street; Herman H. Kiffe, 318 Fulton street; Edward H. Madison, 564 Fulton street; Geo. C. Marsters, 389 Fulton street; Frank E. Morgan, 450 Grand street; E. J. Stowell, 86 Broadway; Peter Toy, 350 Fulton street. *Tobacco, Cigars, etc.*, L. Biederman, New Lots; Buchanan & Lyall, 346 Carroll street; Daniel A. Bradley, 65 Bond street; Henry Mentanus, 239 Flatbush avenue; Samuel Turl, 275 Broadway; W. B. Vredenburg, 104 Court street; G. Schlueter, 238 Duffield street. *Oil Cloth* (four firms). *Resin Oil* (three establishments). *Liquorice Paste and Stick*, Young & Smylie, 180-186 First street, E. D., and S. V. & F. P. Scudder, 114 John street. *Honey and Maple Syrup*, E. A. Walker, 135 Oakland avenue. *Tin Toys*, E. Durlach (see page 704), 282-286 Penn street, established 1880, average hands employed, 125; 20 horse steam power; annual product, about \$100,000; is the only toy factory in the county. *Tinware*, William Vogel, 45 South Ninth street. *Asphalt Grease*, John J. Hardy, 788 Third avenue. *Rubber Goods*, A. H. Smith, 74 Ninth street and 61 Leonard street, N. Y.

Sewing Machines.—L. Roeder, 145 Scholes street.

Mineral Waters.—George Russell, 373 Bridge street; William Wenhoffer, 329 Ewen street; H. Minck, 43 Beaver street.

Surgical Instruments.—George Tiemann & Co., 81 Boerum street.

Thermometers.—J. T. Large & Son, 118 Powers street.

Show-cases.—N. & P. Scott, 6 De Kalb avenue.

Baskets.—Sebastian Selig, 139 Montrose avenue.

Designs and Making of Art Furniture.—Lang & Nau, 262 Fulton street. The business was established in 1871, at No. 294 Fulton street, by the present firm, where they rapidly built up a large patronage. In 1879, they removed to 262 Fulton street, a large four-story corner building, 50 feet front by 125 deep. The firm are wholesale and retail dealers in furniture of every kind, and give special attention to interior decorations. They are designers and makers of special sets and pieces of all descriptions and in all woods. Their warerooms contain the newest and most elegant designs, upholstered with the richest stuffs. The firm

under a variety of names, and with elaborate or plain designs. A branch of their work is the well-known "wallpapering" with all the *Reynolds* English. Messrs. Lang & Son are leaders in the movement that took form a few years since, which applies the principles of art to household decoration, and preserves harmony in design and coloring throughout. In this departure the firm has been remarkably successful, and deserves credit for its enterprise.

Bookbinders.—Charles E. Smith, 170 Fulton street.

Jewellers.—James H. Higgins, 21 Water street; John Evans (pearl), 176 North Fourth street.

Clothes.—Henry Jackson & Son, 103 Raymond street.

Printing Ink.—Wm. D. Wade, 902 Dean street and 117 Fulton street, N. Y.

Vinegar.—H. Krummelt & Balcke, 1228 Myrtle avenue; John Schlegel, 136 Twenty-second street.

Sausages.—William N. Munch, 29 Humboldt street.

Whiting.—Edward Richardson, 120 John street; Conrad Zeiger, 208 North Ninth street.

Shoes.—John Barnett, 1004 Flushing avenue.

Rattan.—I. J. Solomon & Sons, 65 Milton street.

Watches.—Wm. H. H. Bellows, Devoe street, corner Leonard street.

Cork.—Truslow & Co., 214-220 Plymouth street.

Preserved Fruit.—E. A. Walker, 137 Oakland street.

Baby Carriages.—Christian Hays & Co., 38 Ainslie street.

Brooches.—John Frank & Son, 87 Johnson avenue.

JAMES BINNS, deceased, was a sturdy and worthy representative of the best class of Brooklyn manufacturers. He was one of many Englishmen, who, having devoted their earlier years to a patient, thorough mastery of some mechanical industry in their native land, and then choosing America for its wider, freer opportunities, have spent here their mature years, in the successful pursuit of their avocations and their fortunes. He was born in Yorkshire, England, Feb. 28, 1817. His father was an engineer, who gave him a fair, common school education, and then apprenticed him to learn the trade of wheelwright and machinist, in Lancashire.

Soon after this term of service was accomplished, he hurt his hand, while engaged as a journeyman, so severely, that the heroic surgeons of that day, becoming discouraged with the slow healing operations of nature, decided to cut it off. The very day set for the operation, the swelling burst, saving a hand that afterward, with its worthy mate, rendered him the most successful of fortune.

James Binns' American wife, married Elizabeth Wormold, who was born May 1st, 1820. Two years later, they wisely decided that a young couple, with good health and good habits, and a determination to win an honorable distinction by honest work and intelligent thrift, could do better in the New World than in the old, and accordingly left England April 15th, 1842, arriving in New York the 14th of the following month. For the first two years Mr. Binns worked part of the time in New York, and the rest of the time in Brooklyn, doing whatever jobs offered in the line of

ing three-wheeled velocipedes one winter in the former city. In 1844, he settled on Walworth street, near Flushing avenue, Brooklyn, where he leased two lots for three years, and then six additional lots; all of which he bought ten years later, paying \$500 for each. During all these years this husband and wife were devoted to each other, and to the stern duties by which they conquered all difficulties. When they lived on Spencer street, Mr. Binns' shop for several months had no roof and no windows, oiled papers being the substitute for the latter.

Many an evening Mrs. Binns held a tallow candle for her husband to work by. It is well for the present generation to know that many a prosperous business, that moves so easily now, had its foundations laid in such toilsome beginnings. Among the first pieces of machinery made by Mr. Binns, were shell wheels for distilleries, cast wheels with wooden cogs. Then he turned his attention to the machinery used by rope-makers, and was the first man in this country to manufacture it. Among his first patrons were Thursby, Waterbury, Lawrence and Wall—names then, and most of them still, prominent in that immense branch of business, for which Brooklyn has always been distinguished. There is rope machinery still running in Bushwick that was made at his shops. Portable steam engines constituted another branch of his business, during much of the time he was working for the rope-makers.

The first shop he put up was during the first five years' lease, previous to 1850. After that he kept adding what was needed until the present capacious buildings have been erected to meet growing wants for room. He built his dwelling-house in 1872.

When the war came on, so many of his men enlisted, that he had to give up making rope machinery, and never resumed it. The next line of work he turned his attention to, was the repairing of street cars, and other fixtures pertaining to horse railways. In this, as in everything else he undertook, complete success rewarded his efforts. He was a thorough mechanic, and at the same time, a good organizer and manager. Seated in his house, he could detect the least derangement in the various shops from the report brought to his ears by the running of the machinery. As many a Brooklynite well knows, this section of the old Wallabout of thirty-five years ago has been so transformed by improvements that few old landmarks remain. Then, the water used to come up to where Mr. Binns' blacksmith forge now is. Even since the war, children have rowed in boats from Flushing to Myrtle avenues. William Marshal and John Thursby's rope-walk was located where Moore's foundry now stands.

About five years after his arrival in this country, Mr. Binns' father and mother and three brothers, George, Richard and Charles, left England and settled in Brooklyn, where the latter still live. The mother died in 1849 and the father in 1855. The children born to James and Elizabeth Binns have been three sons, William J., David W. and Henry, and four daughters, Mary Ann, Maria, Martha M. and Emma E. Of these, four have died, the survivors being Martha, Emma and David. The father was taken from his family, and from the sphere of his usefulness, at the age of 65, breathing his last April 8th, 1882. That terrible scourge, Bright's disease of the kidneys, snatched him away while apparently in the prime of his maturity, enjoying, in undiminished quantity and quality, the full degree of his robust mental and physical powers. The positions of responsible trust he filled at the time of his death attest his public and private worth. In each of the following railroad companies he was a director: East New York and Broadway; Van Brunt Street and Erie



James H. Burns

Basin; New Williamsburg & Flatbush; Atlantic Avenue, and the North Hudson County of N. J. The latter two corporations adopted resolutions of respect and personal regard, which were printed in appropriate form, signed by the respective officers, and presented to the family of their deceased friend. Mr. Binns was also an officer in the Commercial Bank of Brooklyn, which body gave the following expression to their feelings, at a meeting held April 11th, 1882:

"Whereas, it has pleased Almighty God, in His wise providence, to remove from our midst, by death, our highly esteemed friend and associate, Mr. JAMES BINNS, late Vice-President of this Bank, we, the surviving members of the Board of Directors, do place on record and express our deep emotion at this sad bereavement;

"Therefore, be it resolved, that in the death of James Binns we have lost a most faithful friend and counsellor; one who was ever ready to give a helping hand to all proper objects; a man of the strictest integrity; averse to craft and over-reaching; full of candor and ingenuousness; kind to his neighbors; hospitable to strangers; honest and open-hearted; devoid of pride and hypocrisy, and a man who entertained malice toward none, and who had a constant regard to honor and probity.

(Signed) "THOS. D. HUDSON, *President*.
"JOHN J. VAIL, *Cashier*."

The foregoing, with added expressions of regard for the deceased, and condolence to his household, were most beautifully embossed on successive tablets, which were enclosed in rich covers that bear the inscription "In Memoriam," and presented to his family. To live a life that produces such a reputation is the richest legacy any one can leave to those who come after.

His mind was clear and peaceful to the end. He was broad and independent in his religious views, belonging to no church. In politics, he always acted with the Republican party after its organization. His son, David, trained from boyhood in all the details of his father's craft, continues the large business intact, with most satisfactory results. In 1877, he made a trip to England, which was extended to Paris, being gone eleven months from home. During this time, he experienced great satisfaction in comparing the scenes that met his eyes with those his fancy had painted from descriptions so often heard from his parents' lips, of their island home, of its green fields, its quiet villages, its opulent cities, and its teeming industries, the story of which forms the brightest page in the history of civilization.

Mrs. Binns is blessed with health, to enjoy with her family, at the old homestead, the results of the prosperity she so nobly bore her half of the care and toil, during all these eventful years, in helping to create.

Addenda.

Herewith we append a number of manufactures received too late for insertion in their proper places in the foregoing pages.

Glass Works—The Eureka Glass Annealing Works, on Gold street, near Tillary, were first established in 1878, at 90 Raymond street, then removed to 79 Adams street, and from there to their present location. The firm commenced as the Weyer Annealing Company, formed for the purpose of annealing glass by the Weyer's process, in which the glass is heated to about 800 degrees in a solution of potash. Mr. Lucas is the superintendent. Only one other firm in the city

uses the process, which is quicker and cheaper than the old method of annealing in ovens. **Glass Moulds**: Anthony Kribs, 211 Concord street, commenced 1877; capital, \$5,000; wages, \$2,000; annual product, \$10,000; S. J. Pardessus, 1208 Pacific street, manufacturer and importer of glass, established at 9 and 11 Park Place, N. Y., inventor of ventilating apparatus and fire tower and fire escape. Otto Goetz, 218 Meserole street, also manufactures glass.

Sash, Door and Moulding. R. F. Whipple, 20 and 22 Bergen street, employs thirty-five hands, using about three-quarters of a million feet of seasoned lumber annually, manufacturing in pine and hard woods all descriptions of interior finish for city and country dwellings. The business was started by Richard Whipple, in 1836, and continued by R. & S. R. and R. & N. M. Whipple, in connection with the building and contracting business, until 1875, when the manufacturing part was assumed by R. F. Whipple, at 266 Court street. Burned out in the fall of 1879, he moved to his present large factory a few months after, to which in the fall of 1883, was added an extension, nearly doubling its capacity. **Sash and Blinds**: W. H. Hall, 605 Quincy street; Young & Girard, Greenpoint avenue, cor. Java street; Wm. H. Bierds, President street, corner Third avenue; Elias T. Eddy, 1 Hope street; R. B. Ferguson, 250 Hewes street. **Sash**: H. Kirk, 278-282 Schermerhorn street; C. A. Lindsay, 88 Schermerhorn street; Stanley & Unckels, Butler street; C. Stein, 168 Stagg street. **Mouldings**, H. E. Fickett & Co., 3d street near Third avenue; Hugh Tollner, Classon, corner Park avenue; Henry Werner, 88 Schermerhorn street.

Hardware and House Furnishing Goods, &c. — Robert Blohm, 758 Third avenue; S. E. Burtis, 135 Myrtle avenue; S. W. Cornell, 121½ Court street; Alanson Carter, 530 Fulton street; W. & J. Dixon, 29 Atlantic avenue. C. W. Dunlap & Co. (see page 705). The present firm was started about 1848, in Northampton, Mass., and organized as a stock company in 1869, Mr. Dunlap being a stockholder. Jan. 1, 1873, Mr. Dunlap bought out the other interests, and started the business in Brooklyn, N. Y. The firm manufactures a line of house-keeping hardware and small garden tools. They have twenty employees or thereabouts. Estimated sales, \$50,000 annually. They have been located at 249 Plymouth street for the past twelve years. Mr. Dunlap was born in Hartford, Conn., but has been a resident of Brooklyn for forty years. Joseph Edwards, 101 Flatbush avenue; N. Langer, 299 Adams street; Wm. Marlow, Jr., 335 Manhattan avenue; Fred. Schluchtner, Atlantic avenue; H. L. Young, 451 Fulton street; C. H. Tiebout, 31 Grand street; J. Totten, 188 Grand street; T. B. Willis & Bros., 94 and 96 Court street; Van Brunt Wyckoff, 622 Third avenue; Moses Kessel, 150 Broadway.

Sash, Painted Wood. Henry Schuch, 18 and 20 Allen street; fifty hands; capital, \$50,000; came from

Machinery in New York. This employs steam and forty horses power, besides doing general steam work.

Wm. Lang & Co.—William Lang & Co., 133 East 10th street, South Street, established 1869, by William Lang and A. H. Lang. Capital employed, \$200,000. They employ about 100 men, and produce annually for value \$1,110,100.

H. J. Jonathan & Piny.—9 Third street, E. D.

Wm. W. Kelly.—J. C. Kelly, 205 Penn street.

H. W. MeAdams.—Rudolph Spahn, 205 Bushwick avenue.

R. W. St. John.—James J. McCormick, 315 North Third street.

Norman Hubbard.—Norman Hubbard, 93 Pearl street. About 1853 Mr. Hubbard

entered business, with a partner, under the firm of Hubbard & Whittaker. In 1873, the firm was changed to Hubbard & Aller. This arrangement lasted two years, when Mr. Aller retired. The firm manufactures general machinery. Its specialty is the Niagara steam pump. Steam engine boilers are also a part of their manufacture. The Brooklyn water-works engine No. 1 was built by Mr. Hubbard, and is now giving excellent satisfaction at Ridgewood. The amount of capital invested is \$80,000. About forty men are employed, and the annual products amount to \$150,000.

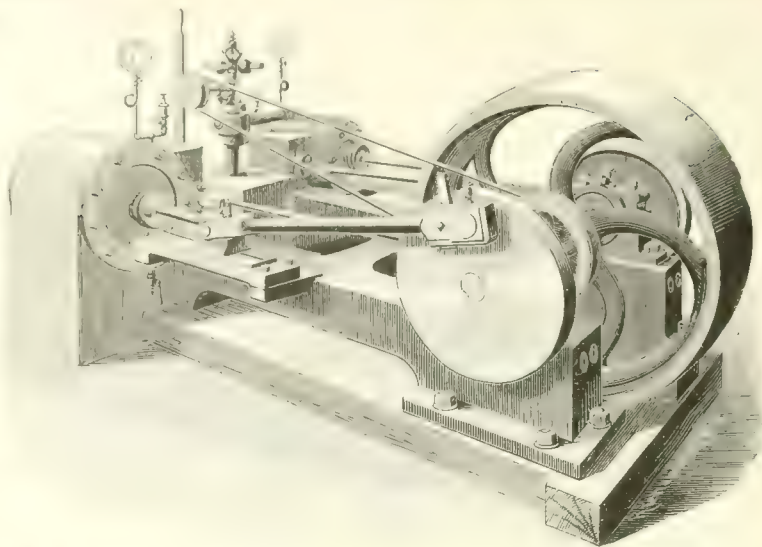
T. J. Alsor.—T. J. Alsor served fourteen years with the Benton Tube Works Company, rising in their employ from an apprentice's place to that of foreman and overseer. In July, 1881, he opened an establishment for himself at 92 Pearl street, where he now employs twenty or more men. Being a thorough and practical steam fitter, he has the patronage of several of the largest manufacturing establishments in the city. His specialty is the manufacture of a vertical tube boiler for steam heating purposes, which presents a large surface to the fire and generates steam rapidly. It being his own invention, he has a laudable pride in its success.

Heating Apparatus for Green-houses, etc.—John A. Scollary, 74 and 76 Myrtle avenue, born at Dundee, Scotland; established 1858, Brooklyn; iron foundry at Red Bank, N. J., where their own casting is done.

Alsepp & Hugill.—Alsepp & Hugill, 92 Pearl street; Annin & Co., 13 Adams street.

Boilers.—William McAdam, 66 Milton street.

Machinists.—Lewis & Fowler, 8 Columbia Heights; James Brady, 257 Water street; John Fresse, 208 Montrose avenue; Peter Gardiner, 132 Leonard street; Jas. Hardie, 127 Water street; John J. Hayes, West, cor. Kent; F. Bernard Piel, 48 Humboldt street; Ridley & Co., 104 Montrose avenue; Brown, Deane & Siders, Shop



F. ROCHOW'S PATENT COMPOUND STEAM ENGINE. (See page 679.)

pard avenue; Wood & Co., 61 North street; White & Price, 363 Hamilton street.

Machinery for Hoisting-engines, Machinery for Tow-boats, Steam Yachts, etc.—Gibson & Elsesser, foot of Court street.

Iron Foundries.—Burr & Richmond, South Ninth street; W. H. Davis, 62 Rutledge street; James Mitchell, 56-64 Water street; William Mulloy, 313 South Third street; Paulson & Eger, North Eleventh, corner Third street; Steel & Metcalf, Seabring, near Richards street; J. Schweizer, 54 Metropolitan avenue; J. A. Slatt, 558 Grand street; J. S. & G. F. Simpson, 26-36 Rodney street; Thomas Terry's Sons, 26 Powers street; Charles Vogt, 516 First street; J. F. Outwater, 78 South street.

Iron Railings, Fences, etc.—James Demai, 101 Wyckoff street; James Gorman, 30 Flatbush avenue; J. Dennemann, 605 Bushwick avenue; Philip Degro, 132 Ten Eyck street.

Brass Founders.—William Stieglitz, 37 Lorimer street; William Lang, 136 First street, E. D.

Saw and File Makers.—In addition to the Boynton Saw & File Co., 36-42 Devoe street; and C. B. Paul, 187 10th street (named on page 701), are, Stanley Oliver, 93 Ten Eyck street; and Geo. Proctor, 318 First street, E. D. For E. M. Boynton's biography see page 825.

Agricultural Tools and Implements.—Richard Gram-mich, 103 North First street; J. G. Pollard, 141 Raymond street; *Dies, mill picks, contractors' tools, etc.*, established 1837 by Simmons Pollard; annual product about \$7,000.

Iron Cans.—The Iron-Clad Can Manufacturing Co., 929 Flushing avenue and 22 Cliff street, N. Y.

Locks.—D. Brehler, Bushwick ave., cor. Scholes.

Caulking Irons.—John Carver, 44 North Third street.

Wire Manufacturer.—M. Drew, 171 Fulton street.

Pottery.—John Bedum, Bush street, near Hamilton avenue.

Cracker and Biscuit Bakery.—Daniel Canty, 532 Grand street, established, 1860, on opposite side of street, by Hamilton Waddell, who was succeeded by Mr. Canty. In 1871, a new factory was erected and furnished with new and improved machinery, reel ovens, &c.; has facilities for baking 200 barrels of floor per week; has six teams and about thirty hands.

Self-leavening Flour, etc.—Nassau Manufacturing Co., 22 Doughty street, and 7 Vine street, incorporated May 1878; B. F. White, president; G. E. Goldsmith, treasurer; F. A. Marsh, manager.

Carriages.—James E. Wheeler, 131 3d street; J. P. Bernius, 670 Third avenue; James Campbell, 72 Kent street; A. Kolbrieser, 5 Johnson avenue; John Lime, 49 Bergen street; M. Marlborough & Sons, 470 Clermont avenue; Chris. Nielson, 745 Third avenue; T. S. Potter & Co., 270 Court street; Sullivan Bros., 341 Pacific street; John Field, 127 25th street.

Trucks.—James Baird, 647 Grand street.

Wagons.—Domigan & Nielson, 745 Third avenue; John N. Schnell, 272 Hayward street; T. Shick & Sons, 518 North 2d street.

Box Manufacturers.—A. B. Dobbs & Co., 128 Freeman street; Reeves & Church, 127 Greene, and 129 Pearl street, N. Y.; Wood & Son, 325 Ewen street.

Paper Box Manufacturers.—Beers & Frost, 125 Nostrand avenue; Thomas Lynn, 60 Troutman street; And. Wohlgemuth, 89 Leonard street.

Pump Manufacturers.—Murdock Bros., Bedford ave.

Boats.—John F. Munson, foot 55th street; Walters & Gorman, foot 55th street; James Lennox, Third avenue, corner 24th street; A Stillwell, Fort Hamilton.

Braids, Worsteds, &c.—Among the many improvements in the manufacture of textile fabrics during the past ten years, that in braids and cords is marked, as an examination of the establishment of *August Moll*, Nos. 235 to 245 Lynch street, Brooklyn, N. Y., will testify. Mr. Moll was born in Barmen, Germany, where, in the year 1851, he was established as a mechanical inventor. In 1853 he erected a factory for the manufacture of braids in that city, which he continued until 1863, when he came to the United States.

In 1866 he again started in this business on First avenue, New York city, and remained there until 1870, when he removed to Brooklyn, and began manufacturing on the premises now owned and occupied by him. In 1883 he built the factory represented in the accompanying cut, which is of brick, 120 feet front on Lynch street, 44 feet deep and four stories high, with basement. A 40 horse power steam engine is used, and 65 hands are employed making silk, mohair, worsted, linen and cotton braids, cords, etc., the annual product being \$100,000. Mr. Moll is the only manufacturer of these goods in Brooklyn, and from the many improvements and inventions made by



AUGUST MOLL'S MANUFACTORY

him in the mechanical department, he is enabled to produce a quality of work, which, for regularity, smoothness of finish, evenness and correctness of pattern, and cost of production, is unequalled in the world. His machinery is the best, the wheels being made of the finest wrought-iron and steel. The invention of much, and the improvement of all of it, is his work. Mr. Moll's father was a farmer, but the son at an early age, evinced a fondness and natural taste for mechanics, which by development have given him his present marked success. He has two brothers in Barmen, both manufacturing braids.



THE E. M. BOYNTON SAW & FILE CO.
111 N. 1ST ST. BROOKLYN, N. Y.

The Atlantic Harbor Company (Limited) is an association organized April 20, 1880, and incorporated under the general laws, for the purpose of holding and improving real estate, and for the construction of wharves, docks, buildings, break-waters and piers, and renting and selling the same. The capital stock is \$35,000, in shares of \$25 each. The primary object is the construction of a harbor for yachts. The stockholders are members of the Atlantic Yacht Club, and number about 45. The association owns a considerable tract of South Brooklyn water front. The first officers were H. H. Hogins, *President*; Latham A. Fish, *Treasurer*, and John L. Marcellus, *Secretary*. The present officers are John D. Morgan, Latham A. Fish, and John L. Marcellus.

Downing & Lawrence's Marine Railways & Ship Yard, on Gowanus Canal, extending from Court to Clinton street.

Up to January, 1878, there was seven feet of water over all the space occupied by this yard. That winter was so open that outdoor work was interrupted only two days and then by high winds. The location was, by some persons, said to be *away out* in a country mud-hole: and, as business had been remarkably dull during the previous two years, the movement was ridiculed as being worthy of no support unless by lunatics. Prophets were in abundance; but a few months were allowed for the existence of the firm, such a large capital being required, and but a small amount, comparatively, was visible. The theorists were soon proven in error, and the success of the enterprise was a fixed fact. On May 29th, 1878, the first railway was put in operation, and two years later the second was completed, and in five years 1,400 vessels, of 1,400 tons register and under, have been taken out of the water.

Thirty tons of chains are in use for hauling purposes. The machinery weighs 90 tons. The cradles are 230 and 280 feet respectively, and weigh 300 tons each. The tracks rest their entire length of 660 feet upon piles, and are perfectly fair throughout. The locality only required a start to make it desirable for business purposes. Machine and blacksmith shops soon sprang up alongside. In addition to the Ridgewood water, a 2-inch pipe-well was driven to a depth of 47 feet, and a copious supply of excellent water was obtained; this is used to wash vessels and fill tanks and boilers. A steam saw, the telephone, fire telegraph, wrecking pump, hydraulic jacks and every necessary facility has been provided. All these, in a land-locked harbor, where winds and currents have but little effect, renders this place very attractive for vessels needing repairs.

DOWNING & LAWRENCE'S MARINE RAILWAYS AND SHIP YARD.

Downing & Lawrence's Marine Railways & Ship Yard, on Gowanus Canal, extending from Court to Clinton street. E. D.; began 1866. The elder brother had been apprenticed to the same business, and first commenced business at No. 96, afterwards removing to present location, 100 Montross Avenue, established

1876, at 116 McKibbin street; employs 9 hands. Henry A. Phillips, 843 Willoughby avenue, agent for the *Monumental Bronze Co., of Bridgeport, Conn.*, served during the Rebellion as a member of the 47th Regiment, N. Y. S. Volunteers.



Arthur Murray, Esquire

EBEN MOODY BOYNTON.

Mr. Boynton was born in the township of Harrisville, Medina county, Ohio, July 23, 1840. His father and mother were natives of Newburyport, Mass., his mother Abigail Moody, being a descendant of Rev. William Moody, one of the first settlers of Newbury, who landed there in 1635. The Moody family has been famous for learning, patriotism, intellectual force and public influence. There were many distinguished clergymen of the name, one of whom was made President of Harvard College, which position he resigned for the more agreeable one of pastor of the old South Church, Boston, where he maintained the rights of the colonies, and laid the foundation of British hatred that afterward desecrated that sacred temple of civil and religious freedom by stabling therein the horses of the British soldiery. A century previous, Caleb Moody, an ancestor of the subject of this sketch, greatly distinguished himself in the legislature of Massachusetts Bay by opposing the surrender of the charter of New England to Sir Edmund Andros, urging revolution rather than submission. For this course, he was imprisoned by Sir Edmund, but subsequently released through an uprising of the people, who confined Andros in Mr. Moody's place, and reimbursed the latter for the sufferings he had endured in behalf of the people's chartered rights and liberties.

Alfred Boynton, father of Eben Moody Boynton, was descended from a son of Sir Matthew Boynton, who came to Newbury Byfield in 1636, and took up a large grant in company with the family of Lieutenant-Governor Dummer, the founder of Dummer Academy. The famous deacon of that church, for fifty years, was Joshua Boynton, a son of the first settler of the name. This worthy man, who was also chairman of the Board of Control of Dummer Academy, died at the age of ninety-seven. Another member of the family was associate teacher at Rowley with Rev. John Phillips, the ancestor of the founder of Phillips' Academy, who was educated at Dummer, the oldest founded academy of Massachusetts. The last surviving pupil of Master Moody, the great uncle of the subject of this article—Enoch Boynton—was famous for having introduced the silk culture into New England, and for his inventive abilities. He died about twenty-eight years ago, at the age of ninety.

Eben Moody Boynton came, at the age of thirteen, from his birthplace on the Western Reserve, in Ohio, to the home of his ancestors, in Newbury, and was, for a short time, an inmate of Enoch Boynton's family, and a great favorite with the old gentleman, who predicted a bright future for the young log-cabin boy. Educated in the schools of Newbury, and Phillips' Academy, Andover, Mass., he subsequently taught a high school in Amesbury, where he became acquainted with John G. Whittier, the poet. Requiring a more active life, he went into the shipment of black walnut lumber from southern Michigan, where he first perceived the need of improvement in saw teeth. He first suggested the "M"-cutting teeth to his brother, Alfred Boynton, who was in his employ, and whose hook and gauge-tooth Lightning saw was supposed to be the principal element in the first invention, though it afterward proved too complicated for the low state of skill among those using saws. Yet it was the first practical cutting saw ever known in the history of saw manufacture for cross-cutting. Subsequently, Eben Moody Boynton obtained patents on the several improvements now in use for simple "M"-shaped teeth, slightly retreating, which

have been found greatly superior to the former projecting plough-shaped teeth. These saws have proved a great success, and Mr. Boynton has manufactured several millions of them, which have been sold throughout the world. They are the first practical and scientific gain ever made in the cutting points of saw-teeth, providing, as they do, the front cut of a hand-saw, cutting both ways by means of a two-pointed "M"-tooth, perforating the wood in opposite directions as drawn back and forth, the two points of the "M" dressed and set to cut in line, and occupying the same space as the old pyramidal single tooth, the cutting being thrown upon the outer surface of the "M," the two parts of which cut and clean simultaneously with unexampled speed and simplicity.

The difficulty of introducing any new mechanical invention or improvement without capital, experience and skilled labor, is well known, and the intense opposition of the manufacturers of saws, the numerous infringements of the Boynton patents, and the protracted suits at law to maintain them, are matters of historic interest. Perhaps the most ingenious among many imitations of the Boynton saws was one patterned after the ancient "M"-tooth, of the Netherlands of 1682, which was discovered during the infringement suits. This tooth had one point set one way and one the other, and being sharpened on the inside, instead of on the outside of the "M," was consequently not as good as the ordinary "V"-tooth, though, to the unskilled workman, the saws so made so closely resembled the Lightning saw, that, by its use, unprincipled manufacturers and dealers were frequently able to check the enormous demand that was growing for the Lightning saw, this worthless imitation being often palmed off upon purchasers with the verbal statement that it was the same saw. Except for this, the Lightning saw would have come into universal use, since it cost no more to manufacture it than inferior saws, and its supremacy in speed and ease of cutting, durability, simplicity and practical utility, are unquestioned by scientific men the world over.

At the Centennial Exhibition, held in Philadelphia in 1876, a public test of cross-cut saws was ordered by the committee of examination to be made before the Commissioners of all nations, at which Dom Pedro, the Emperor of Brazil, was present; and beside him, holding the watch, was Mr. Corhss, the famous engine builder. A twelve-inch stick of solid gum-wood was sawed off, in precisely six seconds, with a hand cross-cut saw, four and one-half feet long, drawn by the two Boynton brothers, Alfred and Charles. Many of the principal saw manufacturers of the world were present and expressed astonishment at what they saw, and it has never since been attempted to match that record. All competition the world over has been distanced by the Boynton saw in every public test, at various State fairs, at the American Institute fairs, New York, at the National Centennial Philadelphia; and at the great Exposition of the South Seas at Sydney, Australia, in 1879, the first award was given without further test, upon the world-wide fame and record known to the Commissioners of all nations represented there. It is unnecessary to say that the Lightning saw has always received the first medals and awards wherever exhibited. Each saw bears a \$500 challenge that the Lightning saw is the fastest saw in the world, and no competitor has ever dared to publicly contest against either the tool or the time recorded.

Mr. Boynton has been awarded some fifteen patents relating to saw teeth, saw frames, saw handles, cross-cut and saw

of Newburyport, from the Philadelphia & Reading coal steamers; towed it to Lawrence, and passed it through the canal, to Gen. B. F. Butler, at Lowell, Mass. Mr. Boynton has since expended over \$50,000 from the revenues of his saw business in opening up the navigation of the Merrimack, with a view to giving cheaper coal and lumber freights and water transportation to the large manufacturing cities on its banks, where about 500,000 tons of coal are used annually, and manufactures aggregating \$100,000,000 are produced. The improvements of the channel, and the delivery of \$80,000 worth of coal by water, caused the railways to reduce their freights in carrying coal to one-half the former charge, on the plea of competition. An opposition so formidable has thus far prevented sufficient capital being embarked to complete an enterprise fraught with so much benefit to the 300,000 people engaged in manufacturing near the summer home of Mr. Boynton; thoughtful men predict that the measure must ultimately prove a great success. The transportation of coal by steam upon the Merrimack, as far as Haverhill, Mass., was first begun by Mr. Boynton and associates in 1864, and has been a constant success ever since, all the coal to Haverhill and the lower towns being now received by water, an indication of the result which enlarged channels and facilities will give to the great manufacturing cities above Haverhill in the near future. In order to admit the deeper draft coal steamers, and open the port for foreign commerce, Mr. Boynton first proposed to the United States Government the construction of jetties at the mouth of the Merrimack, in a letter addressed from his store in New York, of which the following is a copy:

OFFICE OF E. M. BOYNTON,
NEW YORK, Nov. 18th, 1879.

Hon. GEORGE W. MERRILL, Secretary of War,
Washington, D. C.

"Dear sir:—I want a preliminary survey of the mouth of the Merrimack River, near Newburyport. It is desired to extend the narrow channel between Plum Island and Salisbury, continuing it in the same width out to twenty-five feet depth. The shifting sands that obstruct the harbor will be prevented, and the confined channel instead of spreading like a fan as it now does, and changing in every storm, will be rendered as deep as it is between Plum Island and Salisbury, where for half a mile it averages thirty-five feet in depth.

Coal steamers of one thousand tons arrive and depart twice each week at great peril, bringing about one hundred thousand tons of anthracite coal this year. About five hundred thousand tons are used in the valley, the population of which is nearly half a million people. About one hundred millions of dollars' worth of products are sent away annually, and it is desirable that the coal and lumber, corn and cotton, in which the entire country is interested, shall have a free and direct outlet. The proposed improvements, which go for naught unless the harbor be rendered accessible. I will furnish steamers and men, and pay all the expense, if you will request General Thom to meet me and make the preliminary survey. The coast survey furnishes the principal data needed. I have consulted General Thom, who is alive to the vast importance of the interest involved and the pressing need of immediate action. With great respect, I remain

Yours, very truly,
(Signed) "E. M. BOYNTON."

Although this plan was at first objected to on behalf of the government by General George Thom, Colonel of Engineers U. S. A., on the ground of the magnitude of the cost of the necessary boring, sounding, surveys and current

observations, undaunted by the prospect that on account of these objections the work would be delayed for years, and the refusal of the War Department to accept his offer to pay for preliminary surveys, Mr. Boynton next procured copies of the surveys of the United States Navy of 1851 and of 1878, and on February 16th, 1879, he forwarded copies of the same, showing the changes of sand at the harbor bar, and giving the data necessary for appropriations. Ten days later the Secretary of War forwarded to Mr. Boynton the approval of General Thom and of the War Department, of his project for constructing jetties at Newburyport, at the mouth of the Merrimack, estimating the cost of granite work as not to exceed \$600,000, and an appropriation was secured, after one rejection, by the committee, of \$50,000 to begin the work. The adoption of Mr. Boynton's plan was complete, and over \$100,000 has since been expended, and granite jetties extend respectively five hundred feet from the southern shore and fourteen hundred feet from the northern shore, and are to be extended four thousand and twenty-five hundred feet respectively, thus compressing the immense waters of the Merrimack and tidal currents by a harbor in the ocean, with an entrance one thousand feet wide. This is the first work of the kind in the section, and its completion will be a monument of granite, as enduring as the continent, to Mr. Boynton's labors in behalf of the Merrimack valley and the ancient historic city of Newburyport.

In 1877, Mr. Boynton was selected by Messrs. George Opdyke, William Orton, Peter Cooper, Wallace P. Groom, John Williams, and other members of the Executive Committee of the New York Board of Trade, to represent the city of New York, at the meeting of the Association of Chambers of Commerce of Great Britain, at Westminster Palace Hotel, London, in February of that year.

The courtesies received at our Centennial by the Commissioners of the British Association mentioned, led to the invitation, in response to which Mr. Boynton was commissioned, and he was the first to take part as a delegate from the United States in that distinguished body. He participated actively in debate during three days' sessions.

Speech of Mr. E. M. Boynton, of New York, at the Dinner given by the Association of Chambers of Commerce of the British Empire, at the Westminster Palace Hotel, London, England, February 21st, 1877, Lord Salisbury Presiding.

His experience of England was a succession of surprises. On his first night here he had been permitted a seat on the floor of the Parliament House, and listened to the very instructive debate on Indian finances, trade, and resources. And here we listen to the noble Lord Salisbury, who was the delegated absolute ruler of that wonderful land. Solomon in all his glory ruled less than ten millions of people; Xerxes never fifty millions; imperial Rome, scarce ever a hundred millions; and at my side is a Christian Governor-General of India, who rules absolutely two hundred and fifty millions, ten thousand miles away. It crushes a Republican to think of such personal responsibility. What it would be to feel it he did not know; but he was sure that the Bible, which Queen Victoria gave as the secret of England's greatness must be his guide, and that God his helper, to succeed in meeting his responsibility. He was glad to know that not one of the sixty thousand Englishmen in India could strike the poorest native without liability to answer before a magistrate to English law.

America is free. They had some civil troubles, from abolishing an ancient institution—slavery—in fifteen States. The work of freedom it took England six hundred years to accomplish has been completed in the past twelve years. Statesmanship was, however, springing up in those States; the love of peace and pride of country found new expression recently where least expected. Neither execution nor confiscation followed their war, in which three million

soldiers sincerely battled. No right hands of the conquered were severed on the scaffold; all would now shield the nation's honor if threatened from abroad; while their President slept securely without soldier or sentinel.

Mr. Boynton did not wonder at our pride of country, this beautiful land, filled with such memories as cluster round Westminster Abbey. Yet the poets, statesmen, heroes, scholars and history of Britain, were shared by their children in America. His ancestors came from Britain to Massachusetts two and a half centuries ago, yet more and more was England honored in New England and the United States—your great dead men walk and breathe the air of America. The church and the school were abroad in his country, and the masters of English literature were read quite as much there as are here Longfellow and Whittier and Bryant and Holmes. We have no such grand antiquities of human hands in America; but if any here present landed at Halifax, they might ride in one direction four thousand miles, *en route* to their Pacific states—visit New York, the commercial port of the continent, and other large young cities—crossing wide states and prairies of limitless fertility—sweep on swift palace trains over many mountain ranges higher than the Alpine passes trod by Hannibal and Napoleon. Yet they had a few antiquities. When Adam was young their great California redwood trees had sprouted. (*Applause*). When the morning stars sang the song of creation, their Niagara joined in the chorus. (*Applause*). England owned the Canadian, we the American half of that four thousand feet wide of mingled falling waters. And, as he had often looked at the blended mountain of spray that rose to the clouds from Niagara, the sun-blaze on its forehead, linking the rainbows round its throne, was to him a symbol of perpetual peace between England and America; to promote such peace and reciprocity and good-will should ever be the object of his life. (*Applause*).

Mr. Boynton received invitations to many cities and towns in Great Britain, and was presented to her Majesty, Queen Victoria, and the Royal family at Buckingham Palace. His speeches at London and afterward at the Plymouth meeting attracted great attention, and he received thirty invitations which he could not accept.

After visiting France and Italy, and examining various engineering works of harbor and river improvements, Mr. Boynton returned. He was tendered a dinner by the New York Board of Trade, which he declined. He received the thanks of the President, Hon. George Opdyke, in tones of highest eulogy. In sad contrast, Mr. Boynton, with Messrs. Francis B. Thurber and John F. Henry, afterward constituted a committee to draft eulogies upon the life and character of President Opdyke upon his death, which occurred June 12, 1880. December 15th, following, as delegate of the Board of Trade to Washington, Mr. Boynton took a prominent part in the discussion of important measures, and introduced the chairman of the Committee on Commerce, Messrs. Reagan of the House of Representatives, and Beck of the Senate, at the banquet held December 17th.

Mr. Boynton was at that time contesting member of Congress *versus* George B. Loring, from the famous Sixth Massachusetts Essex county district. He had reluctantly permitted his name to be used as that of an Independent and National candidate, and supposed that he had been defeated by less than one hundred votes; but the discovery of a much larger number of illegal votes led General Butler and Hon. Caleb Cushing to believe Mr. Boynton elected, and it took two years to decide the matter. He refused to make any terms with either of the old parties, and therefore was prevented from obtaining the seat to which these able counselors, and such men as General Weaver (a minority of the committee), General Regan, and Alexander H. Stephens, declared him entitled.

The question was not finally decided until just before the inauguration of President Garfield, thus giving Mr. Boynton two years of Congressional observation, which has proved of great value to him, and had the effect of thoroughly disgusting him with politics.

Mr. Boynton took part in the inauguration of President Garfield, as his last political act, and has since devoted himself to literature and farming. He sold out his patents in 1882 to an incorporated company at 36 Devoe street, Brooklyn. They were valued at \$300,000; having the preceding year under his own management, earned \$63,000 gross and \$30,000 net profits, and whatever discouragements in manu-

facturing or losses may hereafter occur, the Lightning saws up to that date had been an unquestioned success the world over. The cutting of wood with cross-cut saws by farmers, and the saving of fuel because the short-sawed blocks are so easily split, it is computed by the *American Agriculturist*, in speaking of this saw, that it causes a saving of \$50,000,000 or more annually in the United States alone, which is largely due to the improvements introduced by Mr. Boynton. The sale of cross-cut saws has increased twenty-fold in the United States since he began his public experiments, the saws superseding the use of axes, which wasted all tough and knotty timber, to say nothing of chips and the loss of time in cutting. The waste of fuel was thirty per cent., now saved by the use of saws.

Mr. Boynton was nominated for member of Congress by the Democratic party in Essex county, in 1880, in a district which, with one exception, has been almost unanimously Republican, (since the days when Rantoul and Choate and Cushing represented it), yet Mr. Boynton received about 2,000 more votes than had previously been necessary to elect; the largest vote ever given a Democratic Congressional candidate in that district. It being presidential year, the Republican party prevailed, although many Republicans preferred Mr. Boynton; and his opponent's native city, Newburyport, though overwhelmingly Republican, gave Mr. Boynton a large majority, showing how high was the estimation in which he was held by his neighbors and townsmen. Extracts are annexed from a Congressional speech of Hon. Mr. Boynton, which has been pronounced to contain the best defense of the Fourteenth Amendment to the Constitution which has ever been given, and it is predicted that the extension of suffrage by Massachusetts in conformity therewith, is only a question of time. We copy from the *Congressional Record* :

"Men of Massachusetts, dare you take this responsibility? Loring has quoted young Ohio, the daughter of Massachusetts; Ohio does not do this deed of disfranchising weakness and wickedness. Iowa does not perform this infamy: Maine does not disfranchise her people. New Hampshire, adjoining Massachusetts, with a similar people in every respect, does not find it necessary. Shall Massachusetts dim the lustre of her heroes, go back upon the teachings of her history, give the lie to her professions? Shall she act the part of those rulers in Judea, who, when Jesus was crucified, would not enter the judgment hall for fear of being defiled, yet when the stern and bloody Roman governor said, "I find no fault in him," cried out "Let him be crucified! Give us Barrabas, the robber!"

“Men of Massachusetts, shield not yourselves behind your illustrious names. As well might Loring, petitioning for national appointment, go to the gravestones of our ancient Salem for names to secure it as to seek to answer the points of law and fact in this case by taking refuge behind the history, the fame, and the glory of our ancient Commonwealth. Massachusetts is not that little space between the hills of Berkshire and the sands of Barnstable; she is now fifteen million of descendants, whose warehouses are in every portion of the Republic from Maine to San Francisco: it is the liberty-loving men of America, it is the ideas that come down to us from the scaffold of Sidney, from the words of Locke in his exile, from the pilgrims and Puritans, from John Hancock, Adams, Warren, from James Otis, insisting that taxation without representation is tyranny, speaking for universal manhood suffrage in the old cradle of liberty. I adjure you by all her immortals and by the kindred revolutionary heroes of Virginia, by the Sumters and Marion of South Carolina, by every battlefield of the Revolution, by the liberty won in our last sad, fratricidal strife, that you be true to your official oaths, be true to the genius of American liberty and manhood suffrage, and true to the destiny of this the great master republic of our world.

"You stand at the dividing line between a free and a restricted ballot. Beside you are vast syndicates and giant corporations that urge you to disfranchise the people; that urge you to make the people weak and helpless; that urge you to take from millions of citizens of the United States their lawful rights and erect an empire."

"The United States Census of 1880 shows that from the same population three men voted in Maine and New Hampshire, Ohio and Indiana, where only two voted in Massachusetts, in a population of similar intelligence and employment. If Maine, Hampshire, Ohio and Indiana had the history of Massachusetts safety, they would have voted the

mother State? Does it dim the splendor or retard the success of Ohio because she does not refuse a vote to the poorest freed-man in her borders? Have we not in America's three hundred thousand free schools, academies and colleges, security that intelligence shall rule, without making the poor and the unfortunate tremble at the loss of his manhood suffrage."

"Had the equality proclaimed in our immortal Declaration of Independence been real, a million men would not have died to write freedom in the Constitution. Two hundred thousand black men fought for their liberty. The colored people alone outnumber our nation when it won independence. You legislate for our fifty millions of to-day, for the five hundred millions that will celebrate our next centennial. No power can compel you to do justice and keep your oath at freedom's altar. Will you refuse and dim the splendor of the hero-crimsoned flag that is destined to gather in all the States of the New World—destined to teach law and liberty, peace and fraternity to all mankind. That flag is alike for the lowly and the strong; touching earth, it sweeps the stars.

"The uncounted generations that have come and gone, the slow advance of freedom through sixty centuries, the mistakes that have darkened history, warn us vigilantly to guard the summit of man's liberty, our Constitution so dearly won. The morning gilds our mountain heights of freedom; when surpassed by noon it shall only make the men that held their passes immortal."

Mr. Boynton expects to give great attention to the railway problem in the near future, and is confident that the new *bicycle trains* he has invented will permit a possible attainment of speed that will carry them across the continent, with perfect safety and great economy, in a single day, and render the use of sleeping-cars, or stoppages for sleep and rest, unnecessary, while they will admit of the automatic handling of grain and coal without the use of elevators. We have traced Mr. Boynton's inventions in saws until they have passed from his hands into the control of a corporation, and his enterprise in improving the Merrimack river and harbor, which is now superseded by government action that it is believed will ensure its final and complete success. There are two other inventions of great importance relating to the construction of compartment ships. His experience in running the rapids of the Merrimack, below Lawrence, with scows, and his recognition of the danger of their sinking, when pierced, and thus obstructing the channel, as well as becoming a total loss, led him to invent a system of plank partitions dividing the scows lengthwise and crosswise into compartments six feet square, these partitions bolted together taking the place of knees with greater economy of construction, supporting the decks upon which the railway tracks and sixteen cars rest, and rendering the sudden sinking of scow and cargo impossible.

It is believed a similar structure for fishing vessels and passenger steamers would prevent much loss of life and effectually prevent the shifting of cargoes. The compartments would need to be larger than those described above in large vessels; but, as access is provided to each of them from the centre, the filling of any one of them with water would not endanger the others. These compartment scows proved a great success where the sinking and destruction of other scows was inevitable. Mr. Boynton's railway patents of 1880 and 1881, embracing some fifteen diagrams, have not yet been brought into public use. Many subordinate improvements connected with them are in progress. All combined, are designed to take the place of the present railway in carrying passengers and grain, coal and rolling freights.

An inch board twelve inches wide, turned edgewise, is theoretically twelve times as strong as when lying flatwise, and it is certainly no heavier. His plan embraces the construction of railway carriages, with great vertical depth and narrowness, which shall be likewise light and strong. He constructs essentially a *bicycle train*, with wheels two or three times larger than the present railway wheels, designed at each revolution of the drive wheel, to double or treble any rate of railway speed hitherto attained, by the size of the wheels and the lightness of the narrow train. The bicycle train is planned to run on a single rail, clasped between Bessemer steel plates, below which the groove and track are connected with a corresponding groove and track overhead, upheld by trestle wheels above the cars, the contrivances overhead keeping the train vertical and giving it the precision in transit through this open trestle-tunnel of a bullet in a gun-barrel. While the train cannot leave the track, it

is designed to be of such lightness, narrowness, depth and strength, that it can be carried over cities and outside of bridges with little expense and wonderful directness. Accident is rendered impossible, as, with one wheel below and one in each end, the lower edge of the car of steel glides within an inch of the bottom rail and groove so that if a wheel should break, the narrow steel bottom of the car would simply slide in a steel groove until the train should be stopped. The form of the car being elliptical, similar to the structure in which it runs, with a drive-wheel fifteen to eighteen feet in diameter, the train being only one-fifth the weight of the railway trains now in use, the locomotive could be propelled by much less steam than is now employed running the train at three times the speed of one of our fastest express trains. The cars riding upon one wheel of six feet diameter at each end, no more turns would be made and no heating of spindles would occur. If electricity should be employed for the propulsion of the bicycle trains, the large drive-wheels could be dispensed with, and lighter structures used.

It is estimated that the cost of constructing such a railway, with its rolling stock, would not be greater than the present cost of railways, as it would be built on single posts, occupying no more space than telegraph poles; the structure is also patented to carry telegraph and telephone wires above, always accessible for repair, the strong and frequent support of which would render the interruption of telegraphic service in connection with the railroad impossible. The bicycle train could also be used over the tracks of the present Pacific Railway, using one of the inner tracks and coupling against a groove rail twenty feet above in a manner similar to that previously described; but a complete structure of steel, or wood, and a track of steel to fit it, are recommended by Mr. Boynton as best realizing his plans.

Distinguished engineers have given the patents their highest approval, and it is believed that Mr. Boynton's invention is destined to make a revolution in rapid transit. The bicycle train, it is thought, would cover, without any more turns of the wheels, or any greater expenditure of force than are now necessary, the distance between Boston and New York in ninety minutes, or that between New York and Philadelphia in thirty minutes. Each car, instead of riding upon sixteen wheels, and weighing ten to twenty tons, as now, would be suspended between two wheels, one at each end, dispensing with fourteen wheels, eight axle-trees, and five-eighths of the weight. Like the bicycle, which is the simplest form of motion for wheeled vehicles, it would be free from all liability to accident and susceptible of a much higher rate of speed than has been attained by any other style of car.

The cars are designed to be made wide enough for the seating of two persons only. The traction could be increased by pressure of the guide-wheel against the overhead-wheel, enabling the locomotive to climb grades, and, with the Westinghouse brake, to regulate the speed, little grading would be required. It must be seen, also, that no more right of way would be necessary than for the construction of a telegraph line. All obstruction by cattle, snow, or the crossing of other roads, would be obviated by the peculiar construction of the road. Its narrowness would permit its support on brackets among rocks and mountains, and if tunneling were required, the tunnel need be no wider than a miner's drift.

It is thought that this plan of Mr. Boynton's solves the problem of a through line traversing North and South America, as it seems the best for railroad construction in all climates, and through varying sections of country. Mr. Boynton will give his attention to this great question hereafter; and being still a young man, should his life be spared, he will, during the next twenty years, try to work out results of importance in the lines of invention, and mechanical and commercial progress. His patents have heretofore proven of an original and practical character, and his more daring and radical designs are believed to contain the elements of greater triumphs than he has to this time achieved.

Mr. Boynton's articles in the public press, quarterly reviews and periodicals, and his public speeches and addresses, would fill a volume. His originality, vigor and eloquence have given him a national fame; while his inventions in saws, tools, ships and railways have added much to the wealth and progress of the arts in which he is engaged. He is a man loved by his friends and feared by his enemies; his individuality and outspoken methods of procedure arouse envy and antagonism, while his courtesy to his opponents has frequently won tributes of praise from his adversaries.

NATHAN BARNEY



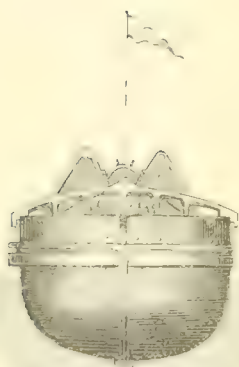
A. W. Parney

Benjamin Barney, grandfather of NATHAN BARNEY, the subject of our present sketch, was a New Englander. The family were scattered during the great struggle for independence, and finally settled in the Wyoming Valley, Luzerne county, Pa. Benjamin had three sons, John, Charles and Nathan; two daughters, Elizabeth and Clarissa. Elizabeth married Noah Wadhams, and Clarissa married Wm. C. Enos; and Nathan married Miss Hannah Carey, daughter of John Carey, of Careytown, near the city of Wilkesbarre, Luzerne county, Pa. The early historian speaks of Mr. Carey as a man of "herculean frame, marvelous strength and great personal courage. He enlisted under Captain Durkee in the Revolutionary War, and served with distinction throughout the war; was at the Wyoming massacre, and escaped death. It is recorded of him that when eighteen years of age, when the early settlers of the valley were suffering for food, he went on foot over the mountains in the severe cold of winter to Easton for flour." They had nine children—six sons and three daughters—of which two sons and one daughter are still living. Nathan, Jr., our present subject, was born in Careytown, Dec. 25th, 1819, where he farmed with his father until 1833, when the farm was sold.

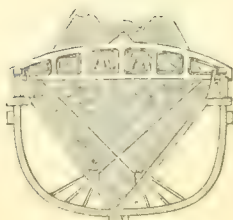
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No. 1.



No. 2.



No. 3.



No. 4.

able bathing-place for the millions of people attracted there for health and recreation during the summer months, as much of the decomposing material was thrown upon the surface of the water, to be driven upon the adjacent shores by the winds and waves. Mr. Barney (then Street Commissioner, for the year 1880, of Bayonne city, N. J.) at once solved the difficult problem by inventing the Automatic Dumping Boat, which is now in successful operation in the city of New York.

Mr. Barney has invented quite a number of useful things, and may be classed among the successful inventors of the day. He was elected first President of the Barney Dumping Boat Co., and served two years in that capacity. Is secretary of the company at this time, and one of the board of directors. He was twice married, and has one son by his first wife, and four sons and one daughter by his second marriage. Resides at 101 Hancock street in this city.

Mr. Barney was originally an old line Whig; since then has been a Republican. He belongs to no church. Mr. Barney's great-grandfather and Commodore Joshua Barney, of Lake Erie, were brothers.

The *Barney Automatic Dumping Boat* has overcome all the difficulties heretofore attending the dumping of street sweepings, garbage, refuse material and ashes, at sea. The boats now in use are 110 feet long, 28 feet wide, and when loaded draw $9\frac{1}{2}$ feet of water, with a capacity of about 500 tons. They are built with sharp bows and rounded sterns, with rudder, and are able, with perfect safety, to go to sea in the heaviest weather; being fitted with bulwarks to protect

the men and keep off the sea. These vessels are constructed with hulls or pontoons which extend their entire length; they are secured at both ends and in the middle with heavy bridges, fastened at the sides by strong hinges to the pontoons. The carrying space is between the pontoons which slope downward from their upper and outward edge, inward toward the keel, where they meet. The storageroom extends nearly from end to end of the vessel, and is V shaped. The entire space is comprised in one compartment, 90 feet long. By reference to the cuts of boat, the principle will be readily understood.

Cut No. 1 shows a longitudinal view of the vessel, light, with three bridges, one at each end and one in the center, where the man stands when the load is to be dumped.

Cut No. 2 shows end view (bow of boat and water line, when loaded).

Cut No. 3 is a cross-section of boat showing the load in place, between the pontoons, and the tension rods which hold the floats together at the bottom when loaded.

These rods are secured to the friction beams on the bridges, the lower ends secured to bolts passing through the hulls as shown; each bridge has a set of these tension rods.

Cut 4 shows the boat after the load is dumped and while being held open by the man on center bridge, to allow the space to be thoroughly washed. When open, a clear space is shown from stem to stern, the sides of sloping well being nearly vertical.

The vessel being closed and *locked*, is loaded and towed to sea. When she arrives at the dumping ground, the man in charge *unlocks* the fastening on the middle bridge, then by



C. Schmitt

turning the wheel the catches on all three bridges are simultaneously released by this one man on the center bridge; the hinges that hold the upper part of the pontoons together, allow the two lower parts of the hulls to swing apart, and the load passes into the water between them and *below* the surface.

The pontoons work automatically, *opening and closing* as soon as released. The two forces are here utilized—the gravity of the load opens the boat, and the displacement closes her. The movement is about one-eighth of the circle or one-sixteenth to each pontoon. The mechanical contrivance by which the pontoons are held together, opened or closed, is simple and effective. The water coming up between the pontoons saturates the load and forces the air out, so that when the boat is opened it passes out quickly and in a body, the light and heavy material together, nothing being left to drift ashore.

With these boats there is no possibility of the shore along our watering-places being littered with garbage and other material, defiling the water and destroying the bathing grounds. The material can, if necessary, in summer, be taken ten miles to sea, and there placed at the bottom.

Two men are all that are required to manage one of these vessels, carrying 750 cubic yards of material; smaller boats may with perfect safety be handled by one man. The load can be dumped and the boat thoroughly washed in five minutes. These vessels may be built of any required size, from one hundred tons to one thousand.

The city of New York has been using these boats for over twelve months, with perfect success; during that time they have never failed to perform their work, and at a saving of nearly 50 per cent. over the old method. These boats have been thoroughly tested at sea in heavy as well as light weather, and have proved perfect under all circumstances.

The scows now in use under the various street cleaning departments carry their loads on deck, and are therefore top-heavy and dangerous in a sea-way; they require *twenty to thirty men* to load and to unload, and *three or four* hours in the work, the dry garbage covering the surface of the water for miles. During this time the tugs are detained at considerable expense. If the weather is at all rough, the laborers will not go outside, as there is great danger of their being washed overboard. With the common deck scows, there is no certainty of having the material removed when collected. The Barney Dumping Boat overcomes this difficulty, and presents *the most perfect method* of dumping.

A tug with four of the Barney boats in tow can make better time than with two of the present scows. Briefly, the advantages of these boats are as follows:

First.—Cheapness of construction for the amount of work accomplished, time and labor saved.

Second.—Economy in operation. Two men can dump the load, wash the boat clean and close her in *five minutes*.

Third.—Submerging of the load. The load enters the water six feet below the surface, leaving no trace behind.

Fourth.—Their seaworthy qualities. These boats can go to sea in almost any kind of weather, the load, from the keel up, serving as ballast.

Fifth.—The simplicity of the machinery and the ease with which it can be worked even by unskilled hands. There is no machinery below the water; should any repairs be necessary, the work can be done without docking the boat.

Sixth.—It presents a complete solution of the problem of disposing of a city's refuse or any other material to be dumped in the sea.

CHARLES FELTMAN.

The frequenters of Coney Island during the summer season will recognize, in the portrait opposite, the features of one of the most energetic purveyors for public enjoyment and accommodation, to whom that "Pleasure City by the Sea" is largely indebted

for its present wonderful growth and popularity. Mr. Feltman's most interesting biography, and a full description of his well-known and favorite hotel (The Ocean Pavilion), will be found on page 199 of this work.

ISAAC A. KETCHAM.



Isaac A. Ketcham

ISAAC A. KETCHAM, of Brooklyn, N. Y., is the inventor and patentee of a number of new devices, two of which were for regulating torpedoes or submarine batteries, which are used by the U. S. Government, and were hailed as a new era in naval warfare. The accompanying cut, taken from *Harpers' Weekly*, Oct. 1, 1864, represents the first iron-clad torpedo-boat built by the U. S. Government, on Mr. Ketcham's plan. It was named the *New Era*, and was used on the James River, and other places, for clearing harbor obstructions. So formidable was the little ship that she could, with impunity, deposit her shells under the obstructions to be removed, under the guns of the enemy. Her officers were confident in her power to destroy all the monitors afloat, without injury to the little craft, which did not carry a gun. The second invention was a device by which an endless cable is used for adjusting torpedoes or batteries across channel-ways for harbor protection. A letter to Mr. Ketcham, dated February 2, 1863, and sent from on board of the flagship of the Mississippi Squadron, by direction of Admiral Porter, in reply to a letter offering to join him, and put both the inventions in practice, stated that the rebels were using the endless cable, and that the United States had to be used to clear the banks of the rivers before he could move his fleet; adding that he could not use either invention without the consent of the Navy Department. The endless cable for adjusting torpedoes, was recommended in connection with the Timbey Battery, better known as rotary battery, as used on the monitors for the protection of New York harbor.

In 1861, Mr. Ketcham failed in his attempt to secure from the Secretary of the Navy an investigation into the merits of the above inventions. In 1862, when the great iron-clad Arkansas was moving in the western waters, a similar attempt failed; he then made application for letters patent, which he received in October, 1862. Tired of applying to the Navy Department, on October 24, 1862, he addressed President Lincoln, who immediately referred it to the Navy Department. On the 29th, he received a reply, stating that the invention would be examined; but the matter rested



UNITED STATES TORPEDO BOAT, "NEW ERA."

A, Arm. B, Basket. C, Torpedo. D, Pilot-House. E, Smoke-Stack. F, Ventilator.

until April 1, 1863. Despairing of any attention in that quarter, he notified the governors of New York, Massachusetts, Rhode Island, and other States, from whom he received kind acknowledgments, referring him to the U. S. government. He then addressed another letter (March, 1863) to the President, with drawings, stating that if he did not receive a reply in ten days from the date of the letter, he should dispose of his invention to other parties. April 1, 1863, he received the following report:

"The Commission has had under consideration Mr. Ketcham's inventions, and report as follows as to the first: As the firing of a gun under water had not been advantageously demonstrated, they recommend no further action; and as to the second, the use of the endless cable had some novelty in it, and recommend no further action.

"Signed, GIDEON WELLES,
"Secretary, U. S. N."

The first patent was for a method of advancing a torpedo or battery through the side, bow, or stern of a vessel, beneath the water-line, by the use of a sliding shaft to be exploded while held off, after being detached from the shaft by some suitable device. As shown in the above cut, there is no gun used. The second was for the use of an endless cable, across channel-ways, running from inside of fortifications, to adjust torpedoes to a suitable position. Soon after the investigation, a government commission recommended the building of a ship to be armed with one of Mr. Ketcham's inventions, as verified by three engineers. Their verifications, attached to a petition, were presented to Secretary Welles in person, by Mr. Ketcham, after the death of President Lincoln. Mr. Welles refused to entertain the subject. After his removal, they were received by Secretary Borie, who had promised to investigate the matter, but the investigation has never been held. On March 24, 1870, the Hon. John G. Schumaker, M. C., from Brooklyn, introduced a bill in Congress, granting Isaac A. Ketcham compensation for the use of his patent by the U. S. government, which was referred to the Committee on Naval Affairs, and ordered to be printed. The last effort was made in 1883, asking a hearing by President Arthur, which was referred to Secretary Chandler; and after a number of evasive replies, he reported that he had no other report to make than the one made in 1870. Mr. Ketcham never received nor heard of such report.

Mr. Isaac A. Ketcham was born in 1827, in Huntington, L. I., and was the only son of John and Charry Ketcham. He married the second daughter of Mr. Thomas S. Robbins, Huntington. Both his own and his wife's ancestors were among the first settlers of Long Island. They have two sons, the oldest, George F., a physician in good standing, a graduate of Long Island College Hospital; the youngest, Warren A., an artist by nature.

It is proper to add that the name of the government torpedo boat "New Era" was afterwards changed to "Stromboli," and later to "Spuytenduyvil." Mr. Ketcham feels that he has suffered much and long, after his large outlay in time and money, by the government's delay, but is confident that justice will be done to his invention and claim.



Wm. J. Fy. 1871

WILLIAM IRVINE PRESTON.

In tracing the career of prominent men, it is our desire to conduct our narrative with equal truth, delicacy and decorum, to avoid undue panegyric on one side, and the danger of disguising those real talents and adornments which our subjects actually possess, for fear of incurring the charge of adulation.

There are certain characters not easily described; there are others so transparent that their portrayal is a felicitous task. It is with the mental as with facial portraits—some of which easily elicit the abilities of the painter, causing his pencil to move naturally and truthfully over the canvas, its every touch bringing out the life-like expressions of a countenance, until it stands before him the exact representation of the original.

In many respects, the character we are about to portray belongs to this class; it is the career of an ardent, strong, determined mind, intent on attaining success by untiring diligence, by the exercise of those traits which adorn the character of an intelligent and conscientious business man, who attains wealth and prominence in the legitimate channels of business and commerce, instead of those wild speculations which, at best, are but little removed from gambling, and whose fluctuations and revulsions often terminate in sudden ruin.

WILLIAM IRVINE PRESTON was born at Cato, Cayuga Co., N. Y., September 3, 1828. He was a son of Andrews and Eliza Ann (Ferris) Preston. His father was a native of Pomfret, Conn., born November 29, 1788, and was the son of Samuel and Louisa (Abbot) Preston.

Mr. William I. Preston's great-grandfather, Jacob Preston, was born March 7, 1733, and the name of one of his children, who was a Tory in the Revolutionary War, has never been mentioned in the annals of the family.

The father of William I. Preston early in life removed from Connecticut to Ira, Cayuga Co., N. Y.; and, after several years' clerkship, he entered into a copartnership with Hon. Augustus F. Ferris, for many years one of the judges of the Court of Common Pleas of Cayuga Co., in a general mercantile business in the village of Cato.

The firm of Ferris & Preston existed for many years, drawing its patronage from every part of northern Cayuga Co. Perhaps no mercantile establishment was more successful in gaining and retaining the unlimited confidence of all classes of people in that part of the State than this.

The junior member of the firm, Mr. Preston, possessed a mind naturally qualified to enter easily into the details of public and private business affairs. He was influential as a politician; and, in recognition of his marked abilities, his upright character and other popular attainments, he was chosen by the electors of Cayuga Co. to represent them in the State Legislature for the years 1827, 1835 and 1840. While he was active in politics he was not aggressively so, and retained in a large degree the respect of his political opponents.

It is said that a man's true popularity begins at home with his neighbors, where he is best known. Taking this for a criterion, Andrews Preston's popularity was of a true and substantial type. The equitable traits of his character were indicated by the frequency with which he was chosen the arbitrator in all neighborhood disputes, and selected as the village counsellor and conveyancer, drawing with remarkable accuracy and skill all papers usually drawn by lawyers.

He was united in marriage to Eliza Ann, daughter of Judge Ferris, the senior member of the firm. There were born to this marriage eleven children, of whom William Irvine is the third. There are living at the time of this writing only Mr. Preston and one sister, Mabel A., now a resident of Buffalo, N. Y. An elder brother, George H. Preston, became a wealthy and honored merchant of Buffalo, and died in that city June 22, 1881.

The first fifteen years of Mr. Preston's life were spent in the village school at Cato. He was an adventurous, daring and generous youth, and early became a leader of the boys in the village. This often led him into many difficulties; he was dubbed by the villagers "General Put," after the intrepid General Putnam, a sobriquet which he retained long after reaching his majority. Many anecdotes are related of his narrow escapes from the careless use of small cannon; of

many instances when his face and hands were severely burned with powder; of his falling into a cauldron of lye, which took the skin from his entire neck. On one occasion young Preston, as the champion of the village boys, in a contest with the country boys, was soundly thrashed by the leader of the latter.

At the age of fifteen he was sent to a high school at Victory, N. Y., of which school Rev. J. C. Vandercrook was principal. After remaining there one year he entered Red Creek Academy, where he completed his education.

In 1843 Mr. Preston's father removed to Red Creek and established himself as a merchant. Although young Preston was but sixteen years of age he successfully took charge of the business for his father, accompanied him to New York when he went to purchase goods, and was there introduced to many prominent wholesale merchants with whom his father dealt, and whose friendship and confidence he always retained. At a later period he became a business partner with his father, and it is pleasant to relate that the mercantile standing of Andrews Preston under the name of "A. Preston & Son," was never marred by a dishonorable act or a failure to pay their debts. What the latter did he did with his might, determined on a successful issue. His habits were methodical and he attended carefully to every detail of business. But his mind is of that scope that whatever he undertakes must have magnitude.

In 1847 he united with the Methodist Episcopal Church at Red Creek. His devotion to his religious duties were marked and exemplary, and he was soon called upon to take charge of the Sunday-School as its Superintendent, and the manner in which he discharged the duties of this position highly distinguished him and led to the most pleasing results. He seemed peculiarly qualified to blend instruction with delight. Mr. Preston attained his majority Sept. 3, 1849, and in the following spring was elected by the Democratic party Clerk of the town of Wolcott, and the following year he accepted the position of Postmaster. He was elected Supervisor of the town, and at the end of his term he refused to accept any further political honors.

In 1851 Mr. Preston disposed of his business in Red Creek and moved to Auburn, where he entered the Hardware business in the firm of Ferris & Preston.

On October 21, 1851, he was united in marriage to Laura L., daughter of the Rev. Ruben Reynolds, a distinguished Methodist minister then stationed at Cleveland, Oswego County, N. Y.

At Auburn he united with the North Street Methodist Episcopal Church, taking an active interest in all its affairs. He was appointed class leader, and elected a trustee. He was a great favorite in the Sunday School, was elected its Superintendent, discharging its duties until he removed from the city in 1853. Being very fond of music he used his influence to advance the musical interests of the Church. At this time instruments of music were almost unknown in Methodist churches. Through Mr. Preston's influence a melodeon was purchased and placed in the church. The morning it was first used old father Cherry came early to Church, taking his seat near the pulpit. As the singing began he caught the sound of the melodeon and indignant at the innovation, he marched down the aisle, exclaiming in a loud voice, striking the floor with his heavy cane, "I cannot and will not stand the growling of that bull-dog."

Mr. Preston had many friends in the church who were ready to aid in its good work; among these was a dear friend, Wm. J. Moses, whose liberality and Christian devotion gave him the reputation of "always giving more than he ought." When Mr. Preston severed his relation with this church he was the recipient of many testimonials of respect from his brethren and sisters in it, and from the Sunday School, many of which are still carefully treasured by him, especially a beautiful Bible.

After remaining in the hardware business some time, he transferred his interest to his partner, and returned to Red Creek, where he again successfully entered into the mercantile business. The integrity and rare business qualities of Mr. Preston attracted the attention of F. T. Carrington, Esq., an extensive and wealthy grain dealer of Oswego, N. Y., who in 1854 invited him to become his partner, which invi-

tation was accepted, and the firm of Carrington & Preston was organized. It did an extensive commission business at Oswego, and between the grain ports of Lakes Erie, Michigan and Ontario, and the City of New York.

At Oswego Mr. Preston connected himself with the First Methodist Episcopal Church, and was soon made a trustee, a steward, class-leader, and Sunday-School Superintendent. The Society was in debt and for a long time was subjected to a severe struggle for existence. Among other difficulties to which the church was subjected was the intrusion of the slavery question amongst its members. But through the fortunate appeal of Mr. Preston that the brethren remain loyal to the Church—that it was thoroughly anti-slavery; that the attempt to establish an independent society, which was proposed by some, would be attended with great evil and result in the entire destruction of the society—the evil was averted; all divisions and disputations vanished, and the church moved on under the blessings of God to great prosperity, and now ranks as one of the strongest churches in the conference. A chapel was erected in the southern portion of the city which the friends of Mr. Preston desired to name the "Preston Chapel," but, as he would not consent to this, it was finally called the Fifth Street Chapel.

Mr. Preston's business career at Oswego must form a very pleasing period in his life; it brought him many friends among the merchants, and among all business circles he was honored and respected. As an evidence of this he was elected President of the Board of Trade, and while devoting himself to his business, keeping the affairs of the firm in honorable prosperity, he was enabled to give proper attention to all the duties devolving upon him as a public-spirited and enterprising citizen.

When the Southern Rebellion broke out he stood foremost among those, who, with voice, money and influence, proposed to sustain the Government in its efforts to crush it out. He visited every part of the county of Oswego, making patriotic appeals to the people from the rostrum, in urging young men to volunteer in the service of the old flag. His stirring speeches produced a deep and successful impression wherever he went, and many recruits to the army were secured through his influence. Many thrilling incidents might be related which attended Mr. Preston's advocacy of the cause of the Union, but space will not permit us. When the Draft took place Mr. Preston himself was summoned as a soldier; but, after a medical examination, his physical condition was found to be such as to unfit him for the duties of the field. When the 110th Regiment of New York Volunteers was ready to march for Washington, Mr. Preston was delegated, by the Board of Trade and the citizens of Oswego, to present its commander, Col. De Witt C. Littlejohn, a sword and a caparisoned horse. His presentation speech was impressively eloquent, and was listened to by a vast audience with emotions difficult to describe. It was one of those effusions which aroused feelings of patriotism in the hearts of all, and stirred the soldier to deeds of valor. We cannot refrain from inserting the speech entire, as an existing specimen of the eloquence and patriotic ardor of its author. Mr. Preston spoke as follows:

"COL. LITTLEJOHN: The Board of Trade of this city, of which you are an honored member, have prepared a testimonial for presentation to you, as a slight token of their appreciation of your services, in behalf of our varied interest. You, sir, came among us and made this city your home in 1839, having just entered upon your majority. Entering into the active pursuits of trade and commerce, your honest independence and unflinching firmness brought you before the people, and in 1843 you were called to a position of importance and trust in the municipal government, and subsequently elected to the highest of municipal honors, which position you have been called again and again to fill.

"In 1853 you represented this district in the Legislature, and, that eventful session, the unjustness of the enactment making appropriations for the Erie and not for the Oswego Canal was exposed, and you snatched from the rude hand of usurpation the violated system of internal improvements; and the amendment to the Constitution, appropriating \$10,000,000 for the completion of the Erie, was not allowed to be presented to the people for ratification until the Oswego Canal was also therein provided for.

"This great principle of carrying on the public works of the State, each canal to be equitably provided for, and in such ratio that all should be completed at the same time, was not

established until after great struggle and unflinching firmness on your part; and that principle so faithfully and so successfully urged by you upon the State at that time has been the basis of all subsequent legislation, and to you, sir, do we feel we are indebted for the inauguration of that system which has given us to-day the enlarged Oswego Canal with seven feet of water, the rich benefits of which we are now enjoying, and which we trust will be handed down a precious inheritance to future generations.

"Since which distinguished services you have again and again represented us in the Legislature; and in brief, for seven years, during the progress of the work of enlargement of the State canals, and during the hard-fought battles with the Western portions of the State, in which it was sought to engraft the specious doctrines of discrimination on the policy of the State, you ably and faithfully advanced and protected our interests.

"You have been largely identified with the trade and commerce of Oswego, and while you were pursuing its peaceful avocations, extending and enlarging trade and its facilities, you rarely contemplated that these canals—these great thoroughfares of the country, were also the nation's fortifications—since, if not the deposits of military resources, they enable us to bring to rapid action the military resources of the country. They are better than any fortifications, because they serve the double purposes of peace and war. They dispense in a great degree with fortifications, since they have all the effect of that concentration at which fortifications aim.

"And if, by one of those awful and terrible dispensations of Providence, this Government should be unhappily dismembered, here, in this noble work would traces of its former existence and glory be found on which to pour out our affections and tears, as the remnant of God's chosen people may now be found weeping around the relics of their former greatness.

"It has required strong motives and powerful efforts in a nation, prone to peace as is this, to break through its habits and encounter the difficulties and privations of this civil war; but, as the clarion trump of strife has sounded fiercer and fiercer still, the Administration has awakened to its fearful and awful magnitude, and no sooner is the call for 600,000 men sent forth flashing with electric light through the country than it is seen blazing and coruscating through every city and hamlet of the loyal states.

"Like the Eastern magician, the President invoked volunteers with a voice of power, and the shouts of answering spirits, like the murmurs of subterranean waters, went up from every hill and plain and valley of our beloved country, and to-day we anticipate a million of patriots are marshalling in defense of our common country.

"Nations, like men, fail in nothing which they boldly attempt, when sustained by virtuous purpose and firm resolution. At the call of our country, in this her hour of peril, you have cast aside the pen, closed the counting-room, taken up the sword, buckled on the armor, and in the short and unparalleled space of ten days raised a regiment of gallant men, who are eager to rescue our country from the hands of treason, and demonstrate to the monarchies and crowned heads of Europe that this first great experiment of self-government is not a failure, but that it has within itself the moral and physical power to maintain and defend its free institutions, and transmit them untarnished to posterity.

"You have made great sacrifices to meet your country's call; and, in offering your services and your life upon the altar of our common country, you add a still more glorious wreath of laurels around that name which Oswego has ever delighted to honor.

"Colonel, in behalf of the Board of Trade, allow me to present you this sword as a memento of their high esteem and appreciation of your services, and a pledge of our confidence in your bravery and that of your command.

"And also allow me to present to you, in the name and on the behalf of our fellow-townsmen and noble patriot, Mr. Theodore Irwin, this beautiful horse, all caparisoned and equipped for the war.

"And, as you are soon to leave us with your command for scenes of carnage and blood, you will carry with you the earnest prayers of warm hearts that God will protect and bless you and these noble men whom you will lead to battle. And when the war is ended and our country again enjoying the blessings of peace, it shall be said of you, in the language of a departed sage, 'Honor to those who shall fill the measure of their country's glory.'"

Mr. Preston has never had any ambition for office, he is and always has been a Democrat, as his father was before him, who was in former days a "Hunker Democrat." He is conscientious but firm in his political opinions. During the Rebellion he was a "War Democrat" of the strongest and most influential kind. In 1860 he was nominated by the Democrats of Oswego as their candidate for Mayor, notwithstanding his persistent refusal to accept the nomination he yielded to the ardent solicitations of his friends, who believed that such was his popularity that he could be elected, notwithstanding his opponent was Hon. Henry Fitzhugh, one of the most popular men in the city. The canvass was hotly contested, and resulted in the election of Mr. Fitzhugh by the small majority of 289. Mr. Preston was subsequently nominated as the Democratic candidate for Member of Assembly; his opponent in this canvass was Hon. D. C. Littlejohn. Although Mr. Preston ran largely ahead of his ticket, he was defeated. While his abilities are such as must have commanded great influence in the Legislature, or any public position, he is too frank and outspoken to be a successful politician. As he has never concealed his aversion to office-holding and to the platitudes of the mere politician, he has voluntarily been kept from the unsatisfactory position of the place-hunter.

Upon his leaving for his new home, the Oswego Board of Trade, at a meeting held May 18th, 1865, took cognizance of the fact in a series of resolutions, of which the following form a part.

"*Resolved*, That this Board, in the departure of Mr. Preston from our city, loses one who has by his frank, upright business habits, won the confidence of our entire business community.

"Resolved, That in having daily business transactions with him as a member of the late firm of Carrington & Preston, extending through many years, we have ever found him adhering strictly to the rules of commercial integrity.

"Resolved, That in the grain commission trade in which Mr. Preston has been engaged, large transactions are made, involving the transfer of property valued often at thousands of dollars, merely by the word of mouth; yet, in all this, of him it can truly be said, 'His word was as good as his bond.'"

"Resolved, That to his new home he will take the kind remembrance of each member of this Board, and his best wishes for his success in his new and enlarged commercial relations."

One of the pleasantest relations of Mr. Preston with the citizens of Oswego was his connection with the fire department of that city, and perhaps one of the most gratifying tributes of respect paid to him, upon his departure, was tendered in a series of resolutions by the Eagle Hook and Ladder Company of that city, of which he was a member.

He also received many testimonials of respect from the Church, the Sunday-Schools and the various societies with which he was connected.

Mr. Preston was made a Master Mason in Cato, on the recommendation of his father, and afterwards a Royal Arch Mason in David's Royal Arch Chapter, No. 34, of Auburn; and was created a Sir Knight in Salem Town Commandery, No. 16, of Auburn. He was one of the Charter members of Frontier City Lodge, No. 422, Oswego, N. Y.; also of Lake Ontario Chapter, No. 165, Oswego, and First Eminent Commander of Lake Ontario Commandery, No. 32, and at this time is a member of Clinton Commandery, No. 14, K. T., Brooklyn, N. Y.

In 1865 Carrington & Preston retired from business, and Mr. Preston came to New York City, to engage in the same line of business as a partner in the old established firm of H. D. Walbridge & Co., commission merchants in grain, flour and provisions, of the New York Produce Exchange.

His relation with H. D. Walbridge & Co., continued till April 1870, when the firm was dissolved and Mr. Preston succeeded to the business. He purchased the property No. 12 Bridge street, corner of Whitehall, New York, in 1870, and his business office has been here since he came to New York. His offices are near the new Produce Exchange and the care of his large business is largely shared by his nephew, Mr. Andrews Preston.

After residing in New York about six months Mr. Preston removed to Brooklyn, and about the year 1867 purchased the residence of Mr. John D. McKenzie on Pierrepont street, now known as Nos. 69 and 71, which he had built, and the house overhauled and modernized, and it is at present his pleasant home.

He has built up an extensive foreign and domestic trade, and is well known as a successful merchant. His progress is the result of his thoroughly sound ideas of the business and of his ability to execute his plans. He is president of the City of New York and of the New York and New Jersey Exchange, and generally popular in the South. He takes a deep interest in the financial affairs of the United States Government, in improving the condition of Maryland, and in the development of a profitable system of commerce to the West, and also in organizing the terminal exchange in Baltimore. He has been willing to send their consignments to New York instead of the other seaboard markets. Some of the leading bankers opposed the scheme, but after a thorough argument in which Mr. Preston was the leading advocate of the system, the measure was adopted. The result is a saving of many millions of dollars, which would have been lost in the hands of the shippers, and the grain merchants of New York secured to him the honors due to his labor, skill and ability. His system of exchange duty are broad, comprehensive and liberal. He represents his country more thoroughly than by the reputation of any country and the possibilities of its future. Mr. Preston is a close observer of men, and is able to form a very correct estimate of character. Thirty years' experience in the great South has taught him to correctly judge the financial status of the country and to secure his trade and commercial relations as to avoid the loss and pain which have attended many of his countrymen. His name has often been mentioned for office in the Exchange, but he has universally declined, preferring the solid honors which he has won in the South as president to the glare of official position. Mr. Preston has been for nearly 40 years a member of the Congress of Commerce, and has been identified with the American Bible Society, the Missionary Society of the M. E. Church, the New York Historical Society, the United Brethren in Christ, the New York City Bible Society, the Young Men's Christian Association, and is a regular contributor to the various benevolent and charitable institutions of Brooklyn. He is also a frequent and most efficient member of the discount committee of the Fulton Bank of Brooklyn.

He connected with the Sands Street M. E. Church in 1867, and in 1887, he transferred his membership to the First M. E. Church, having accepted the office of President of the Sea Cliff Association. For the purpose of seeking to exterminating that pernicious fruit, the financial trouble, 1902 work is about completed. When it is, Mr. Foster will permanently retire from office.

Aside from his long years of Church work in the society of which he was a member he has done profitable religious work than that which is connected with the Brooklyn Church, one of the Methodist Episcopal Church, chartered May 24th, 1879. The scope of this corporation is broad; the great good it has accomplished commands made upon it, indicate the hold it has upon the sympathy and confidence of the Methodist people in Brooklyn. Mr. Preston is interested in the success of the SALISBURY UNIVERSITY, Salisbury, Conn., a college, D. D. Cornell, President, New York University, and the Methodist Episcopal Church in the study of the University for several years.

[illegible]

his 1990s research focused primarily on the relationship between the HIV and AIDS epidemic in sub-Saharan Africa and the role of the state in the provision of social services.



ROBERT SPEIR.

ROBERT SPEIR, now one of the oldest and most respected residents of Brooklyn, and father of Dr. S. Fleet Speir, was born in the city of New York, December 9, 1805. His father's name was also Robert Speir; he was born at Glasgow, Scotland, February 28, 1773, and very early in life removed to New York, where he became a successful business man, attaining a high position in mercantile and social circles. He was one of the first importers of Merino sheep into this country; he was also a large importer of leaf-tobacco and seal-skins, and many other staple articles.

One of his friends once said to him: "Mr. Speir, I should like to know what articles there are that you don't deal in?" It is certain, however, that in whatever business he engaged, or whatever articles he dealt in, all tended to his advantage and led to wealth.

With an iron-like constitution, with an energy that never flagged, with abilities that no vicissitude of business weakened, with a probity and honor that presided over all, he was long identified with the business interests of New York city. It is said that, until his last illness, Mr. Speir was never laid up a day from sickness.

Very characteristic of him was the manner of his retiring from active business life. He had always said that he would retire from business when seventy years old. What he supposed was his sixty-ninth birthday arrived, and his friends called to congratulate him. Among the number was an old friend, who told him that he was seventy years old instead of sixty-nine as he supposed. Mr. Speir disputed it for a moment, and then called to his clerk to make a calculation and see what his age really was. The clerk said he made it seventy; whereupon, Mr. Speir turned to his son, Robert, the subject of this sketch, and said: "Robert, write out a dissolution of co-partnership and put it in the morning papers; say in it that Robert Speir, Jr., will continue the business." Mr. Speir then stepped to his safe, turned the key, and said, "good day, gentlemen," and went home, having retired from active business on the day he had promised himself.

Mr. Robert Speir was, and is, a large property owner on Myrtle avenue, having paid taxes there for forty years. Mr. Speir built two brown-stone houses in Montague street, and otherwise was active in Brooklyn interests.

His son Robert, the subject of this sketch, inherited very many of the qualities of his father. After receiving a good education, he entered into business with his father. He brought to his occupation rare business talents and industry, united with habits free from the

excesses which often beset young men in New York entering into business, under prosperous circumstances which usually prevent self-reliance, and destroys stimulants to activity. It is, perhaps, needless to add, that his business relations with his father were both pleasant and prosperous. In 1826, Mr. Speir's father removed to Brooklyn and erected a house in Willow street, now near Clark street.

The subject of this sketch was united by marriage, in 1833, to Miss Hannah S. Fleet, daughter of Samuel Fleet, of Brooklyn. Four children were born to them; two sons and two daughters. The Fleet family, one of the oldest and most respected on Long Island, is more fully described in another part of this work. Mr. Samuel Fleet became a resident of Brooklyn in 1820.

Very soon after removing to Brooklyn, Robert Speir, whose biography we are sketching, united with the First Presbyterian Church, of Brooklyn, then situated in Cranberry street. Rev. Joseph Sandford was its first, Dr. Van Dyke, its present pastor. The church edifice in which Mr. Sandford preached, stood on the site now occupied by Plymouth Church, Rev. Henry Ward Beecher, pastor. The present church stands on the corner of Remsen and Clinton streets. Through all the years of Mr. Speir's membership with this church—something over fifty years—he has been an active, conscientious, useful and highly esteemed member, and his relations with it at the present time, we do not hesitate to say, are not only pleasant and agreeable in a secular point of view, but profitable and hopeful in a spiritual sense.

Mr. Speir has never mingled in politics to the extent of becoming an ardent partisan. He believes that the best men should be elected to office regardless of every other consideration, and this belief is the basis of his politics.

Few men are better acquainted, from observation, with the history of Brooklyn for the first half century than he. In his youth, as a resident of the city of New York, he knew Brooklyn as a small hamlet, situated on and about the bluffs, hills and rolling lands that overlooked the East river. He has seen it emerge from that condition to a thriving and beautiful village, and from that to the third city in the nation. With the men of prominence, who, through the long past, helped to make the city of Brooklyn what it is, he enjoyed a pleasing acquaintance; and now, at a green old age, in the enjoyment of mental and physical faculties as vigorous as in the active period of his life, surrounded by his children and by numerous other friends, he is meeting the rewards of a useful and well-spent life.

\$200,000 to \$2,000,000. One of our assessors, who is very thoroughly versed in the valuation of this description of property, assures us that the real estate portion of "the plant" of the Brooklyn manufactories (*i. e.*, the land and buildings) considerably exceeds two hundred million dollars. The machinery contained is, we believe, generally classed as personal property, though not taxed as such.

Next come the *warehouses*, on or near the water front. It is very difficult to estimate the value of these. There are more than two hundred and fifty of them; and one, said to be the largest in the world, is reported to have cost \$2,500,000. Many others are large, lofty and costly buildings. More than fifty per cent. of the imports, and nearly 75 per cent. of the exports from the port of New York, pass through them every year. From the best information we have been able to gather, we should place their value at not far from sixty millions. There remain the *wholesale and retail stores*—such of them as are not also dwellings or manufactories, of which the number and value is considerable—at a rough estimate, not far from ten millions; the *rail-road depots* and stations, *ferry houses*, etc., perhaps about five millions; the *churches and missions*, about 270 in number, are estimated at about twelve millions; the *hospitals, dispensaries*, orphan and other *asylums*, *homes*, etc., etc., not less than ten millions; the *schools and academies*, public and private, not far from twelve millions; the *libraries, museums, art galleries and halls*, three millions; and the *public buildings*, at about six millions. Here we have an aggregate of about 520 millions. Now, of these buildings, with the increased value of the real estate connected with them, more than four-fifths of the erection and increase has accrued since 1854, the date of the consolidation of Brooklyn and Williamsburg.

Our own architects, builders and real estate dealers have been the prime factors in effecting this immense accession to the city's wealth. A portion of the capital which has formed the basis of it has come from other cities and states, but the greater part has been from the accumulations of the toil of our own citizens. The demand for building materials has led to the establishment of many manufactures connected with building, and now every item required in the construction and finishing of the most costly and elegant dwelling, or public or private building, is, or can be, produced in Brooklyn, and of a quality unsurpassed anywhere.

We might, indeed, come somewhat nearer to our own time, and review, with somewhat fuller and more definite information, the condition of the city in 1854, after its consolidation with Williamsburg, when its population had reached about 150,000, and its geographical extent was the same as it is to-day. Nearly thirty years have passed since then, and its population, if a census were to be taken in this autumn of 1883, would not fall short of 700,000 souls. Its material advancement has

been even more rapid than its growth in population. At that time the assessed valuation of real estate in the consolidated city was \$69,014,645. Then, as now, the rate at which real estate was appraised for taxation was supposed to be about 70 per cent. Adding the other 30 per cent.—\$20,704,393—we have \$89,719,038 as the market value, or value at forced sale. The additional \$10,281,962 required to make up the \$100,000,000 would probably have fully covered the value of the city buildings, churches and schools then existing in the consolidated city.

We have, then, as we have already shown, an increase in the value of real estate alone, in this city, in thirty years, of more than \$400,000,000—a rate of increase which not even the most enterprising of western cities has equalled.

There was then, it is true, the City Hall, but no Court-House, only a beer garden where it now stands; no Municipal Building; no Academy of Music, or other music hall of sufficient dimensions to permit the presentation of opera, oratorio, or grand concert; no Academy of Design; no theatres for our amusement-loving citizens, who must for music or the drama go to the great city across the river, to which they then furnished only lodging room. There was no Brooklyn Library; no Historical Society, with its rich collections of antiquities, and its ample supply of historical works. There was, indeed, the Graham Institute, with its small but useful library, a solitary hospital, a dispensary, a single orphan asylum, the Graham Institute for aged and indigent women, the church charity foundation, then just organized; these were the charitable institutions of the time, and only one of these was as well housed as now.

There were, at that time, according to Mayor George Hall, whose inaugural address as Mayor of the consolidated city is still preserved, 113 churches in the city, of all denominations, the greater part having either church edifices or chapels, though a few worshipped in temporary buildings afterwards sold or abandoned.

Some of the church edifices were stately and beautiful buildings; most of these were then recently erected. The Church of the Holy Trinity, Grace Church, the Church of St. Charles Borromeo, the Church of the Pilgrims, Strong Place Baptist Church, the First Presbyterian Church, in Henry street, the First Presbyterian Church, in Clinton street, and the Pacific street Methodist, being the most conspicuous examples; but the greater part were plain but generally substantial buildings, of brick or wood. In the thirty years which have passed, not less than 200 church edifices have been erected, including those which were then unfinished, and the very considerable number which have been rebuilt, either on the old sites or on others. The quality of the new buildings has been as remarkable as their number. Very few of them have been frame

buildings; the greater part were of stone, or of brick, with stone trimmings. A considerable number are among the most beautiful church edifices in the United States. Among these we may name the Church of the Holy Trinity, now completed by the addition of a beautiful and graceful spire of great height; the new St. Ann's; St. Peter's (Episcopal); the chapel of the Roman Catholic Cathedral; the renovated and enlarged Church of the Pilgrims; the Central Congregational Church; the Tabernacle (Presbyterian); the Lafayette avenue and the Classon avenue Presbyterian Churches; the Reformed (Dutch) Church, in Bedford avenue, E. D.; the Summerfield, First Place, Simpson, and Seventh avenue Methodist churches, and St. Paul's Methodist, E. D.; the Washington avenue, Strong Place, and Pierpont street Baptist churches; and the Emmanuel Baptist chapel. The valuation of these churches, which, in 1854, was not quite a million dollars, now exceeds twelve millions.

In public buildings, the increase and the costliness and beauty has been equally manifested; the Court House, the Municipal Building, the Raymond street Jail, the Penitentiary and Alms-house, the Insane Hospital, and the City Hospital, are all buildings worthy of a great city; while the Academy of Music, the Academy of Design, the Brooklyn Library, the Historical Society building, Music Hall, and the five or six theatres, are all buildings which are not surpassed for their several purposes. The stately buildings for banking and insurance houses, and offices, which surround the City Hall, like the Garfield, the Dime Savings Bank, now in process of erection, the Phœnix Insurance and the Continental Insurance building, are worthy examples of the combination of beauty and utility. Not less remarkable are our great collegiate schools, the Packer Institute, the Polytechnic and the Adelphi Academy.

Of Hospitals and Asylums, we have now more than a score, and nearly as many Dispensaries. Most of these are in their own buildings, and some of them, buildings in which architectural beauty is allied with the most complete arrangements for comfort, convenience and restoration to health.

The building of the great warehouses along the river and water front has been almost wholly the work of the last thirty years. In solidity and strength, as well as in capacity, they surpass the far-famed London Docks. One of them (Dows' stores), at the foot of Pacific street, is said to have no equal in extent, capacity, and all the appliances for the rapid transference of grain to and from the vessels which lie at its docks, in the world. The bricks and mortar put into these 250 great warehouses, are sufficient to build an ordinary city.

The great manufactories are also, for the most part, the work of the last thirty years. The vast sugar refineries, ten and twelve stories in height, with walls

which would withstand the bombardment of even modern ordnance, covering many acres of ground and turning out a larger quantity of sugar worth of sugar and syrup annually; the immense petroleum refineries, the monster saw-mills and machine shops, and the great rope-walks, wall paper factories, the extensive paint works, white lead works, glass factories, porcelain works, and factories of all sorts, have taxed the builders' resources to the utmost. Not less than 180 million dollars has been put into these buildings during the past thirty years, an average of \$6,000,000 a year.

We have purposely left to the last the dwelling houses, of which about 60,000 have been erected since 1854, and the number is constantly increasing. While wealthy citizens have erected many beautiful and costly residences for their own use, the habit has prevailed, ever since Brooklyn began to grow, of erecting houses "on speculation," as it was called. A builder, an architect, or a real estate dealer, obtained a tract of land consisting of from two to a hundred lots—25x100 feet—often paying only a small percentage of the value of the land, and having made his plans for a block of buildings, ranging from 12 to 20 feet in width, applied to banks, savings banks, insurance companies, or private capitalists, for a builder's loan sufficient or nearly sufficient to enable him to build houses of the style he intended. The security for this loan was a first mortgage on the buildings to be erected. The temptation was, to build these houses for the smallest possible sum consistent with an appearance sufficiently attractive to insure their sale. The buildings might be frame, brick, brown stone, or marble, according to the supposed wants of the vicinity, and the probable means of the purchasers. At first, these houses, especially in the outlying wards,—which then included, in the Western District, much of the territory east and south of the City Hall; and in the Eastern District, most of the region east, and part of that west of Bedford avenue, and most of Greenpoint, and the region north of Broadway—were mostly frame, and oftener than otherwise of two stories and basement, with balloon frames and flat roofs. The modern improvements were, very few of them, introduced, the present sewerage system not having been perfected, and sewers only built on the great thoroughfare, and the Ridgewood water not being introduced. These houses were generally well built for the time, but the profit was sufficient to induce many who had had no experience or practical knowledge to engage in it, and some of them disastrously. In some instances, capitalists furnished the money, employing builders to do the work, and when the houses were finished, holding, and selling or renting them. The competition soon led to the erection of better houses, of brick, brown stone or marble. Some of these were three stories in height, though the majority were still but two stories and basement. As the sewers were constructed, and the Ridgewood water introduced into the streets,

the inevitable plumber began to introduce his pipes and fixtures, and decay and disease soon visited the new houses. But the constantly increasing competition led to new improvements, and swell or angle fronts of brown stone, often only a veneer of stone, three stories and a mansard roof, elegant fixtures for the wash-basins, stationary tubs, finely furnished kitchens and dining rooms, hard-wood doors, stairs and floors, elaborately carved stairways and newel posts, bronze door-knobs, hinges, locks, etc., etc., took place of the earlier and plainer finishing. There was, in most cases, considerable slighting of the work which was not intended to be seen. The prices of these showy dwellings went constantly higher and higher, till the classes who had hitherto purchased them, mainly young and enterprising business men, who had but little ready money, but good prospects ahead,—found themselves unable to purchase these expensive houses, even though the first payments were but small. There was a demand for a cheaper class of houses which should yet be sufficiently tasteful and elegant to satisfy the cultivated tastes of the purchasers.

This demand has been partially met in several ways. The greater part of these houses had been 20 feet in width and of varying depth from 30 to 50 feet. Some builders resorted to the plan of making them narrower—three houses, 16 $\frac{2}{3}$ feet each in width, on two city lots, or fifty feet—some even narrowed them to 12 or 14 feet, with the minimum depth. Others built brown stone houses of the regulation width, 20 feet, but only two stories and basement, sagely remarking to the purchasers that it would be very easy for them, by and by, when they wished, to put on a third story, not mentioning the fact that the walls were too thin to make this possible, under the existing building laws. Others, desirous of furnishing more room, made their houses two stories in front and three stories in the rear.

None of these plans proved perfectly satisfactory; there was a great rage for brown-stone veneers on the front, though the best brick is in all respects a better, safer and more durable material. Within the past three or four years a great demand has sprung up for apartment houses, or, as they are less euphoniously called, flats. In the eastern wards of the Western District, as well as in the region west of the Park, these buildings have gone up by hundreds. They are of all grades—good, bad and indifferent; a few with elevators and skylights, interior courts, and all the latest improvements, including that very doubtful improvement, the tyrant janitor—but the rent of these was as much, or more, than that of a neat and comfortable house. Others had dumb waiters, narrow and stuffy dark rooms in the centre, and comparatively few conveniences. Some, even poorer than these, very soon degenerated into tenement houses. The imposing exterior of these flats had much to do with their temporary popularity, but the business has been overdone. The Eastern Dis-

trict—Williamsburg—has not been so extensively “flattened” as the Western District, but its immense factory population has required a much larger number of tenement houses, and these are of all kinds except the best.

While the great enterprise in the erection of dwellings, manufactories, warehouses, school edifices, churches, halls, theatres and public buildings, has called in a vast addition to our population, and has increased, and will still increase, our wealth and prosperity as a city, its first effect was to greatly increase our taxation. The territory of our city was so large, and the building up of the streets with outlying wards so rapid, that it necessitated enormous expenditure in the construction of sewers, the laying of water pipes, and the grading and paving of the new streets. Prospect Park and the other parks, as well as the Sackett street or Eastern Parkway and the Ocean Parkway, and the Bridge, have also come into these thirty years, and have, with the other outlays, made the taxation in some of the past years very heavy. These extraordinary expenses are now among the reminiscences of the period of our city’s adolescence, and the taxation is not now as heavy as in many other cities. The present year it is about 2.58 per cent. on the assessed valuation.

It remains for us now to speak of the architects, builders and dealers in real estate, to whom we are indebted for this extraordinary growth and development of our material resources.

The rapid development, whose history we have sketched, has of necessity brought to the surface great numbers of persons and firms, who have found in it the opportunity for profitable employment, and, in many cases, for the acquisition of wealth. The directory for the year 1883–84 gives the names and addresses of 41 architects whose business is mostly in Kings county; of 325 real estate agents; of 21 dealers in builders’ materials, besides 28 proprietors of stone yards, and a very considerable number of marble workers, who confine themselves to marble and tiling for public and private buildings; of 334 carpenters and builders and building firms; of 100 masons, who were also general builders; of 18 master plasterers and decorative plasterers; of 264 master house painters, and of 212 master plumbers and gas-fitters. In all, there were 1,343 firms or persons who carried on business on their own account, who were engaged in pursuits connected with the erection and sale of public and private buildings.

If we take into the account the employees of these 1,343 firms, we shall have an aggregate of not less than 15,000 persons connected with the house building trades and professions. And to this number should also be added the manufacturers and dealers in paper-hangings, 30 in number; the manufacturers of iron work for houses, of whom, in all branches, there are about 75; and the brass founders who make a specialty of house furnishings, of whom there are 24, and, with their em-

ployees, we shall have to add at least another thousand to the number. All this is irrespective of the furnishing of the houses and public buildings, as well as of the lumber trade and the work in hard woods, which is a distinct branch of the business. It would undoubtedly be a fair estimate to say, that, including the furnishing, at least 25,000 persons were directly connected with the building interests of this city, and that 100,000 more were dependent upon these.

The Architects of Brooklyn.—Let us take up some of these classes somewhat in detail, and thus gain a better idea of the growth of this interest within the past forty or fifty years. We will begin with the *architects*. The number of these was, in May, 1884, forty-one, and perhaps we should add to them the seventy-one surveyors, whose office is to lay out the city lots, the streets, etc., and to make plans for the sewers, water mains, etc., all adjuncts of building in the city. The number of these classes is not so large as it would be, if many of the master builders were not, or did not believe themselves to be, competent to make out complete plans for dwelling-houses. Generally, it is only the larger and more costly dwellings—the banking and insurance houses, the finest buildings for offices, and the public or semi-public buildings, like churches, theatres, opera houses, hospitals, asylums, etc., and the city or county buildings, together with the finest of the great warehouses and manufactories—for which the services of an architect are required. It is safe to say that there was not, fifty years ago, sufficient business in the then village of Brooklyn to give full employment to even *one* architect; in the rare instances in which architectural drawings were required, the services of a New York architect were sought for. Even thirty years ago, the consolidated city (Brooklyn and Williamsburg) only supplied business for three or four, and even these supplemented their Brooklyn business by what they could obtain in New York city. They had, for the most part, offices in New York, and much of the drafting was done there. We have been unable to obtain the names of all those early architects, among them was Keller, whose plans possessed great merit; Field, who also maintained a very high position; both of these are now deceased; E. L. Roberts, who, though having an office in New York, and doing a large business there, was also the designer and architect of many of our finest churches. Other eminent New York architects came to Brooklyn, and made the designs for some of our finest buildings.

At the present time, the Brooklyn architects have a very high reputation. Some of them are officers of the American Institute of Architects, and nearly all take rank with architects of New York and other cities. The names of ROBERTS, who, though not now a resident of Brooklyn, is still reckoned one of its most skillful and successful architects; of the late RICHARD S.

HARTFILL, Vice-President of the Institute of Architects, and of all the rest of the ablest of our younger architects; of the two GLOVERS, of Montague street; of WM. A. MINTURN, of WILLIAM H. GAYLOR, who is a successful builder, as well as a fine architect (see Biography, page 100), of ALAN HILL, SYDNEY GREENE, THOMAS MERRILL, JOHN MERRISS, architect of the new Senguy Hospital, FREDERICK WARRICK, and DEWEY BRANCHAULT, of the East District; THOMAS F. HUGHES, JR.; J. H. DOHERTY, office 720 Flatbush avenue, corner Prospect Place; real estate; established ten years ago above address; actively engaged in building, in neighborhood of Prospect Park; of firm of J. DOHERTY & SON; THOMAS B. SOUTHERN, 10 Flatbush street, architect; established 1877, in Brooklyn; formerly with father in the carpenter business; had charge of the building of the school and gymnasium of the Williamsburgh Turn Verein; among prominent buildings, erected the new malt house of S. Liebmam's Sons, the dry goods store of H. Battermann, Broadway, Flushing and Graham avenue, Hebrew Orphan Asylum, 384 and 386 McDonough street, M. May's Sanitary Abbatoir, Johnson avenue plank-road, etc.; and a score of others of less note, though not, perhaps, of less ability, will occur to the minds of our readers.

The Dealers in Builders' Materials come next in logical order. Of these, including the *proprietors of stone yards*, there are forty-nine in all. There were a few brick houses and possibly three or four stone ones in 1834, but the number then building was not sufficient to make it profitable for one man to give his whole time and capital to dealing in building materials. In 1854, the amount of building was larger, and three or four dealers along the water front were receiving the brick from the Hudson River brick yards, the Philadelphia brick brought through the Morris Canal and by coasting vessels, the Westchester marble, the Connecticut River brown stone, the Quincy granite and lumber from Maine, from Williamsport, Penn., from Albany and the north woods, and perhaps a little, also, from Michigan and Canada. The lumber dealers, it should be noticed, number now thirty-eight firms, in addition to the forty-nine already enumerated. But the building increased very rapidly from that time forward. The number of new buildings erected annually rose from 300 in 1855 to 3,539 in 1867, and 3,307 in 1868. In 1869 and 1870 the number was 3,440 and 3,490, and continued very large till 1873. After this there was a lull, but in 1880 the number began to rise again, reached 1,989 in 1881, 2,376 in 1882, and will probably exceed 4,000 in 1884. These are all new buildings, aside from repairs and building additional stories upon existing ones. Of these 1,989 in 1881, 1,989 were brown stone fronts, 775 brick (the two making only one-third of the whole); 1,915 were frame dwellings;



H. S. Christian

there were also 3 stone, 7 brick and 9 frame church edifices, 1 brick school house; 11 brick and 21 frame buildings for manufacturing purposes; 7 brick and 10 frame stores, and 140 buildings of a miscellaneous character. The total value of these buildings was stated at \$3,315,200. In 1882, the fire limits had been extended beyond Tompkins avenue on the east, and almost to the Penny bridge on the south, and in the Eastern District to Graham avenue. We have before us the report of the Commissioner of Buildings of the buildings erected for the eleven months ending November 30, 1881. There were 1,867 new buildings erected in these eleven months, and 1,939 in the whole twelve. Of these 1,867, 1,157 were of brick, 579 of them with brown stone fronts; 710 were frame, and of these 20 were erected in violation of the law within the fire limits. This was almost a reversal of the proportions of 1868, but the difference in cost was still more marked. The cost of the 1,867 was \$9,115,232, and of the whole number of buildings in the year 1881 (1,939) was \$9,498,347. This increase of value was still more remarkable in 1882. There were 2,376 buildings erected, and the estimated cost was \$10,386,263. In 1881, the rage for apartment houses had but just be-

gun; there were 339 dwellings intended for from two to four families. In 1882 the number had largely increased, so that the 2,376 buildings of the year really represented more than 3,500 dwellings. In 1883, these buildings have been going up everywhere. On a single street (Bedford avenue) the number of apartments finished this year exceeds 500, while Nostrand avenue has nearly as many. These are all of fine brick, from fifty to eighty feet in depth and four or five stories high. The greater part have brown stone fronts. Of course, this immense impulse which the building trade has received creates a vast demand for building materials. Some of the dealers are selling their fifty, eighty or a hundred million bricks, and lime and cement in proportion; the stone yards are turning out their hundreds of thousands of square feet of Ashlar, and their thousands of tons of foundation stones; and the lumber dealers are fast stripping the North and Northwest of their timber trees, one firm alone (CROSS, AUSTIN & Co.) having sold the last year 22,000,000 square feet of lumber. The leading houses in the line of

Builders' and Masons' Materials (aside from lumber dealers) are: H. S. CHRISTIAN, of South Brooklyn; H. F. BURROUGHS & Co., of the Eastern District;

BEARD & KIMPLAND, HOBBS & LEEDS and JOHN MORTON & SONS, all of South Brooklyn; JOSEPH H. COLVER, of Washington and Plymouth streets; WALTER T. KLOIS & BRO. and CHARLES H. REYNOLDS, both of the Eastern District.

H. S. CHRISTIAN, the well-known dealer in builders' materials (whose portrait appears on the opposite page), was born in Farsund, Norway, December 4th, 1821, and is a son of Seaver and Martha Thomas Christian. His father was a ship-builder. Mr. Christian attended the schools of his native place until he had attained the age of fifteen, when he entered upon a seafaring life, which he pursued until he was twenty-two. There seems to have been no necessity for him to undertake the toils and suffer the dangers and deprivations of the sailor, but he chose the career from an innate liking for it, and to this day states that he is not sorry that he did, though his days and nights before the mast and on the quarter-deck are of the distant past. His father and mother having died, he made New York his home after he was seventeen years old, and, upon leaving the sea, he entered as a clerk the drug store now of Messrs. Schieffelin, located in William street, but then in John street, where he remained two years.

From that time on until 1863, Mr. Christian was employed by different firms in various branches of trade. September 1st, that year, he purchased the business of Hiram Travers, dealer in builders' materials, located on land owned by the Union Ferry Company, between Degraw and Sackett streets, Brooklyn, and five years later removed to his present location on Second street and Gowanus canal. He has been very successful, gradually increasing his trade, until he ranks with the leading dealers in his line in the city, employing a large number of men throughout the year.

In May, 1849, Mr. Christian married Elmira E. Stuart, a native of New York. They have resided in Brooklyn since the Spring of 1858, and have a home characterized by tastefulness, elegance and comfort, at No. 251 President street.

Mr. Christian has been a member of the Masonic order since 1863, and has twice been master of his lodge. He is also a Knight Templar. For the past thirty-five years he has been connected with the Methodist Episcopal Church, and for twenty-five years a member of the First Place Methodist Episcopal Church. He has held all of the various offices of the organization in turn, and has long been an earnest laborer in the Sunday-school cause, having been Superintendent of the First Place Methodist Episcopal Sunday-school three years.

Politically, Mr. Christian, a former Whig, has been a republican since the organization of the party in 1856. Though not an office-seeker nor an active politician in the usual acceptance of the term, he takes a deep interest in all public affairs, desires the welfare of the whole people, and believes it can be secured only by honest administration.

HORACE F. BURROUGHS, see portrait on following page, a successful and highly respectable business man of Brooklyn, was born in that city, Sept. 26th, 1828. His father, Thomas Burroughs, was born at Newtown, Queens county, L. I.

The subject of this sketch, having lost both of his parents when he was about four years of age, left Brooklyn when he was about six years old and went to reside on a farm at Quogue, in the town of South Hampton, L. I. Here he remained, attending school a portion of the time, until he was about sixteen years old. The young man conceived a great fondness for a seafaring life; accordingly, at the age of six-

teen, he shipped on board the bark *Reindeer*, then about sailing on a whaling voyage from Greenport, L. I., in 1844. He was a great uncertainty, the vessel at that age, but he courageously and determinedly encountered the dangers and perils of the "white sea," and successfully made the voyage.

In that party, they stopped at the Arctic or Western Islands, Cape De Vries, reached the Falkland Islands, along coast of Patagonia, where they pursued the same business, catching whales. On its return home, stopped at the Island of St. Helena.

This voyage occupied one year, and was highly successful. In 1845, he again shipped on board the *Reindeer*, on another whaling voyage, sailing from the same port.

The vessel doubled Cape Horn; sailed along the coast of Chili, stopping at the island of Juan Fernandez, famous as being the place of Alexander Selkirk's exile. From here the *Reindeer* sailed for the Sandwich Islands, where it remained two weeks, giving young Burroughs an opportunity to see much of those islands. Leaving there, the ship sailed for the coast of Kamtschatka, where was the principal whaling ground.

This was the extent of the voyage, the return home being over the same route. Reaching the Sandwich Islands, where they remained for a time, they then sailed for the Southern Pacific, stopping at many of its islands on the way. Again doubling Cape Horn, they pursued their way homewards, stopping at the Falkland Islands, Rio Janeiro and other ports, arriving safely at home in 1847, after an absence of two years.

Young Burroughs, it will thus be seen, spent three years in following the seas. Although it was a life of danger, adventure and hardship, it was one of interest and instruction, imparting to him knowledge and experience of great practical value, which he could have learned in no other place or way.

The year after his return from his last voyage (1847), he spent in coasting between New York and Charleston, S. C., New York and Philadelphia, and New York and Boston; so that really he spent about four years in a seafaring life.

Leaving this, he commenced the carpenter business, at which he worked four years in Brooklyn and Newtown. This brings his life down to the year 1852, when he began the business of dealing in building material. To this business he has successfully devoted the last thirty-one years of his life, and he is still successfully engaged in it. His present place of business is at Nos. 2-14 Taylor street, and at Kent avenue, near Hooker street, and junction of Grand street and Metropolitan avenue, Newtown Creek.

It will thus be seen that Mr. Burroughs conducts a large and extensive business concern, one of the most important in Brooklyn.

The profitable and honorable manner in which he conducts his business, together with his promptitude and reliability, identifies him in a commendable degree with the rapidly growing interests of Brooklyn.

Mr. Burroughs was married October 10, 1850, to Miss Mary Van Nostrand, of Brooklyn. There have been born to this marriage, four children, namely: Thomas, Frederick, William Van Nostrand, Horace Franklin, Mary Louisa and Adele.

He is not a politician in any sense of the word, but always votes for whom he considers the best man, making fitness for office, honor and integrity in a candidate of higher importance than the party he belongs to. Mr. Burroughs is an attendant of Plymouth church.

On the 27th of January, 1890, he was elected to the office of



W. C. Burroughs

more closely to their own business than Mr. Burroughs. The results flowing from this industrious attention are success and prosperity.

JOHN MORTON.—William Morton (see portrait on opposite page), was one of two sons of a linen manufacturer of Ireland, who came to America while yet young men. He located in Westchester county, N. Y., and there married Miss Chloe Teed, a native of the town of Somers. They had four children, one of whom was John Morton, the subject of this sketch, who was born in Somers, April 15th, 1814. When he was about four years old his father removed to Croton Landing, in the town of Cortlandt, where he for some years plied his trade of weaver, later buying a farm in that vicinity, on which he lived until 1847, when he died, his wife surviving him only five years.

During the earlier years of his boyhood young Morton assisted his father and attended the public school at Croton Landing. At the age of seventeen he entered the store of his brother, George Morton, at Croton Landing, as a clerk. Three years later he opened a store on his own account at the Furman dock, three miles above Croton Landing, where he remained in trade only about a year. In partnership with his brother, William Morton, he next established a store at Croton Landing, in which he a few years later bought his

brother's interest, continuing the business alone for about a year, when he sold out the enterprise, and, buying a sloop engaged in the transportation of brick from Croton to New York and Brooklyn. In the course of time his business increased, necessitating the purchase of a second sloop, and in 1852 Mr. Morton removed to Brooklyn, and, in partnership with John Jones, entered upon the sale of builders' materials at the foot of Amity street. Continuing in the same line, in company with John M. Canda, in 1853 he removed his business to the foot of Pacific street.

In 1866, Messrs. Morton & Canda purchased the property on Carroll street and Gowanus canal, now owned by Messrs. Morton & Sons, and established a branch yard there under charge of Mr. Canda. In 1870, the entire business of the firm was removed to the last mentioned site, and, in 1872, Mr. Canda withdrew from the enterprise, and the firm of Morton & Canda was succeeded by that of John Morton & Son, by the admission of Mr. Albert Morton to a partnership with his father. In 1878, John C. Morton, a younger son of the senior member of the firm, became interested in the business, and the style of the firm has since been John Morton & Sons. This business, which Mr. Morton began on a limited scale, has grown to be one of the largest of its kind in the city.

Politically, Mr. Morton has been a life-long adherent to the principles of the Republican party, but he has never been in



John Morton

any ordinary sense a politician. In 1846, he was married to Adaline E. Clark, of Croton, Westchester county, N. Y., who died in 1879. He has two sons and two daughters living, and the family are highly respected.

The largest dealers in building stone are GILL, BAIRD & Co. (see page 803, chapter on *Manufactures*), HENRY KEMP, H. S. CHRISTIAN, the BINDREM BROTHERS, and the GARITY BROTHERS. These are all in the Eastern District. There are, also, in South Brooklyn, BURNS & JOHNSON, E. & J. CONKLIN, CURRAN & COOPER, THOMAS H. DINON, JAMES McDONALD, GEORGE SICKLY, JOHN W. MORAN, and JAMES MCPHERSON. NICHOLAS RYAN, 1,557 Smith street, sand and gravel; established 1859, at present location.

Lumber Dealers.—Among the leading houses are: CROSS, AUSTIN & Co., CHARLES E. ROGERS & Co., THE WHITE, POTTER & PAIGE MANUFACTURING Co., OSCAR F. HAWLEY, R. G. PHELPS & Co. (both of KENNY AVENUE), BEERS & RESSIGUE, ALEXANDER & EDELL, CHARLES G. COVERT'S SONS, HALSTED BROTHERS, HARDY & VOORHEES, JAMES D. LEARY, JACOB T. LITCHFIELD & Co., ROBERT A. ROBERTSON & Co., JULIAN ROSS & SONS, JAMES WALL and ELIAS VENTY.

The Carpenters and Masons, who are also *Builders*, come next. "There were KINGS COUNTY

Agamemnon," the poet tells us, and there were builders and masons and carpenters here when Brooklyn was yet a village, and they were considerably numerous in 1854, when the two cities were consolidated. Some of the most eminent of those who reared for themselves monuments in brick and mortar, in stone, in frame and lath and plaster, are gone to their rest, but a goodly number of the earlier representatives of the trade yet remain, though for the most part they have withdrawn from active participation in building, and in some cases, are busying themselves in dealing in real estate, either of their own or others' building.

Among those who have departed, we may name JACOB RAPELYE and the late DANIEL CHAUNCEY; and among the older living were Ex-Mayor BOOTH, JOHN FRENCH, MORRIS GREENE, WILLIAM H. NICHOLS, WILLIAM H. HARRISON, THOMAS D. FLETCHER, and MAURICE FREEMAN (now Maurice Freeman's Sons, John J. & M. C., 286 and 288 Warren street, builders; established, 1870, in Brooklyn, as Maurice Freeman & Son; since changed to the above firm; natives of Brooklyn).

Of those now actually engaged in building operations we may mention especially EDWARD S. BROWN, JOHN J. GALLAGHER, J. EDWARD JONES, D. A. GARDNER, and GEORGE W. BROWN.

ELBERT SNEDEKER.—This gentleman is, by birth, a Long Islander, born in the town of Oyster Bay, April 16, 1836. He comes of an old Dutch family, whose descendants may be found at various points on the Island. His father was a farmer, and intended his son for the same occupation. When the lad was thirteen, the family removed to the township of Flushing, where there were better educational advantages, which he supplemented by several terms at the Jamaica Academy. His education fitted him to enjoy a more active, adventurous life than a farm afforded, while his tastes naturally led him to a mechanical calling. Therefore, in his eighteenth year, he came to Brooklyn to learn the builders' trade, securing a position, and remaining for several years. During this time, he devoted his evenings and leisure hours to the study of architecture, in which he made such progress as to qualify himself to be an architect. Though he did not choose to make this his profession, it proved to be of the greatest advantage in his subsequent building operations. At the age of twenty-four, he began building by contract; one of the many who have contributed, in this way, to the city's material growth; one of the few who have been able to acquire and retain a competence. To be a successful builder, requires a rare combination of talents. Such an one needs to be systematic; a practical workman, familiar with the smallest details; able to oversee and direct large numbers of men; to exercise good judgment; to foresee and prepare; to be a skillful financier and good executive.

The eminence which Mr. Snedeker has attained in his avocation, proves him to possess abilities beyond the ordinary. Beginning poor and unknown, he has gradually won fortune and reputation. Churches and large buildings have been his specialty. His handiwork is to be seen in many parts of Brooklyn. He built the well-known Oriental Hotel at Manhattan Beach, by far the largest and finest at Coney Island. This immense structure was built in 90 working days, without accident or injury of any kind; a remarkable accomplishment, considering the number of men employed and the hurry in its erection.

Mr. Snedeker was also one of the contractors for Mr. A. A. Low's building, the "Garfield," and of Morgan Hall, at Williamstown, Mass., built for ex-Governor Morgan; also of the new Metropolitan Opera House, the largest building of the kind in New York city. Other similar undertakings testify to Mr. Snedeker's capabilities and reputation as a builder.

Now just in his prime, his past success justifies the prediction of a prosperous future. As occasion offers, he buys and builds on vacant lots for investment. Naturally retiring in disposition, he is not one to thrust himself into notice; but his worth is known and esteemed by a large business acquaintance. When the Mechanics & Traders' Exchange was organized, Mr. Snedeker was one of the foremost in its formation, has since been prominent in its affairs, and now holds its presidency, having been elected to succeed ex-Mayor Howell. The financial institutions—the Commercial Bank and the Montauk Insurance Company—have chosen him in their respective Boards of Directors. In his domestic life, Mr. Snedeker is equally fortunate. He married Miss Paton, November 8th, 1858, who has been a devoted wife and mother. Three daughters and two sons have been born to them; the youngest son died when two years old; the eldest, a young man of great promise, at the age of twenty-three.

The family are all members of the Central Congregational Church of Brooklyn, and their handsome house on Greene avenue is a refined, cultured, Christian home. Amid a pressing mass of business, Mr. Snedeker finds time for social and literary recreation, keeping abreast of the times in scientific reading, study, thought; is quick to adopt improvements in

his occupation; and, in fine, is an energetic worker, an honorable business man, a sympathetic friend, and a true gentleman.

BERNARD GALLAGHER, one of the best known contractors and builders in this city, was born in county Tyrone, in the north of Ireland, June 29th, 1838, and is a son of Owen and Rosannah Gallagher. His mother's family name was Manahan. He came to America with his parents, in June, 1845, and located in Williamsburgh, where he attended such public schools as were then in existence until he was thirteen years old.

At that early age, he was apprenticed to learn the trade of rope-maker, and was so employed during the following three years. He next turned his attention to acquiring the carpenters' trade, serving two years' apprenticeship with Owen McCarran, father of Assemblyman Patrick J. McCarran, and four years with William H. Noe, on Schermerhorn street. He worked as a journeyman carpenter a year, and, in the fall of 1861, at the age of twenty-three, engaged in the business as a carpenter and builder, in which he has continued to the present time.

Since then it is probable that he has erected more public buildings than any other contractor or firm of contractors, within the same period, in the state. Prominent among them may be mentioned the Thirty-second Regiment armory, on Bushwick avenue and Stagg street; the Twenty-third Regiment armory, on Clermont avenue; and the Fourteenth Regiment armory, on Portland avenue; the Kings County Savings Bank, on Broadway, at the corner of Fourth street; the Dime Savings Bank, on Broadway, at the corner of Second street; the Kings County Fire Insurance Company's building, on Broadway, near Third street; the Inebriate Home, at Fort Hamilton; the Queens County Court House, in Long Island City; the Madock building, Nos. 234 and 235 Broadway, New York; the new Fulton Market, New York; Haverly's Brooklyn Theater, and many other large and well-known structures; and at present is engaged in the erection of the new Washington Market, New York.

Mr. Gallagher is a Democrat politically, but has never been an office-seeker nor an active politician. The confidence of the public in him is such that he might have been the recipient of more than one political honor had he consented to become such. He held the office of Commissioner of Fires and Buildings, 1877-79, a position for which his intimate acquaintance with building in all its departments eminently fitted him.

July 25th, 1866, Mr. Gallagher married Miss Mary E., second daughter of George B. McGrath, of Brooklyn. They have five daughters and two sons. Mr. Gallagher's career has been one that may well be emulated by young men starting out on the journey of life—one of integrity, perseverance, systematic and earnest labor and the success which follows all honest, well-directed endeavor.

JOHN D. ANDERSON was born at Brooklyn, N. Y., April, 1833; the place of his birth was what is now the corner of Furman and Joralemon streets. At that time this part of the city was open to the East River, being the original bluffs along the Brooklyn shores, standing out bold and abrupt, in strange contrast with the fine terraces and beautiful grounds into which they have since been transformed.

Mr. Anderson, in his youth, witnessed this gradual, but sure transformation, and a transformation quite as striking, by which Brooklyn emerged from a comparatively small settlement to a large, elegant and still rapidly increasing





Albert L. Smith



Geo W. Brown



John L. Anderson

commercial city. In much of this he has been an important actor, in following his avocation as an enterprising, successful master builder.

His father was James Anderson, a native of Edinburgh, Scotland. He was a man of much energy, intelligence and purity of character; a gunsmith by occupation, highly skilled in his art. His mother, a native of Dublin, Ireland, was a woman of strong mental qualities, well endowed in every respect to discharge the duties of wife and mother, which she did in a most exemplary manner.

The parents of Mr. Anderson emigrated to this country about eighteen months before his birth, and settled in the city of New York. His father conducted a manufactory of muskets for the government, in Pearl street, New York, but his life was suddenly terminated by being thrown from a carriage, while his son, of whom we are writing was yet very young.

When old enough young Anderson was sent to a public and then to a private school in Brooklyn. When he was about eight years of age, a distinguished landscape painter by the name of Newbury, living in Fulton street, was so pleased with the bright intelligence of the boy that he persuaded his mother to let him live with him, promising to teach him the art of landscape painting. Some time after this, Mr. Newbury was called to Niagara, for the purpose of painting a view of the great cataract. He was very anxious to have young Anderson accompany him; but the mother feeling she could not part with her son, and be separated from him by what was then considered to be an immense distance—much greater than the distance now is from San Francisco to Brooklyn—she decided to keep her son at home.

After his father's death, his mother married Mr. Daniel F. McCarty who, it seems, treated young Anderson with all the affection of a father. From him the young man derived his first knowledge of his future avocation. After working with his step-father for some time, he entered the service of Warren W. Sneden, a master builder of Brooklyn, from whom he learned all the art and mystery of his calling.

In those days, builders did the whole work in constructing edifices, and young Anderson learned the whole art of constructing buildings from the foundation upwards, including the art of modeling plaster ornaments, mantles, and the adornments of fire-places, and putting them up.

At the present time, this ornamental work has developed into a separate business; it will therefore be seen that Mr. Anderson is practically skilled in every department of his calling.

He continued with Mr. Sneden about four years, then served one year with Mitchell and Campbell, master builders of Brooklyn. He was now regarded as a competent and thorough workman, and as such followed his trade in different parts of the State for some time, and then commenced business, to a limited extent, as a master builder.

The first building of any importance that he superintended in the erection, is still standing in Fulton street, opposite Pierrepont street, Brooklyn. It is a large, commodious and substantial building. After the erection of this structure, Mr. Anderson's abilities were fully recognized, and his business rapidly increased. The building of churches, other public buildings, stores and private residences, were soon placed under his superintendence. Among these were the Old Ladies' Home of the Church Charity Foundation; Dr. Scudder's church, in Hancock street, near Bedford avenue; First Baptist church, corner of Pierrepont and Clinton streets (a splendid edifice), and the Methodist chapel in Seventh avenue, New York city. Finally he has superintended the building of fourteen elegant churches in Brooklyn and

elsewhere. He built the Eastern Post-office Hospital, one of the most important buildings in the Empire, and the largest depot in the city, at Flatbush and Flatbush avenue, one of the most complete depots in the United States, having all modern improvements, including a large and commodious elevator for carrying open cars in the yard above for storage during the Winter.

Valentine & Co.'s immense granite building, known all over the world, were constructed by Mr. Anderson.

As he has been a master builder in Brooklyn for over twenty-five years, there are few parts of the city that do not exhibit specimens of the taste, skill and energy with which he has prosecuted his business. One of the greatest results to himself in all this is the accumulation of a very handsome fortune, which he enjoys with liberality, and with unassuming comfort. He is now engaged in building several elegant edifices, among which is the First National Bank building, on the corner of Court and Duane streets.

It is a singular circumstance, that Mr. Anderson built the chapel of the Church of the Redeemer, formerly a portion of the main church, and that subsequently his second marriage took place in it, and his only daughter living by that marriage was the first child baptized in it.

Mr. Anderson was reared in the faith of the Protestant Episcopal church; in early life, and until he attained his majority, he attended Calvary church in Pearl street. He is now, and has been for some years, a constant attendant at the Church of the Redeemer.

In April, 1859, he was united in marriage to Miss Fanny Wayland, of Flatbush, New York. In March, 1872, he suffered a great domestic calamity in the loss of his wife.

He was married the second time to Miss Elizabeth Wright, of Brooklyn, August 5, 1873. He was again deeply afflicted by the loss of his second wife, who died March 10, 1881.

By his first marriage he had three children (sons), all living. His oldest, William D. Anderson, is a master builder, engaged in business with his father; his second son, George W. Anderson, is a promising young architect of Brooklyn, and his youngest son, John F., is a student. By his second marriage he had six children, of which but two are living, Mary Louisa, and Charles Leonard.

Mr. Anderson is an active and enthusiastic member of the order of Free and Accepted Masons, having passed to high degrees. He has said: "Masonry requires to be made a religion; the strongest ties of connection between it and the cultivation of virtue, furnishing the manly propelling motive to goodness; that wherever a Mason goes he will find a friend in every brother, if he conducts himself well, and will be shielded against want and poverty by his brethren."

In politics, Mr. Anderson has always been a Democrat, but never a very ardent partisan. He has often been asked to vote for the Democratic ticket, but he has never failed to vote the whole ticket of his party, it was because he believed in it, and that he was convinced that the Democratic ticket was the best for the country. He has always been a man of high principle, and has always been a man of high character. He has always been a man of high character, and has always been a man of high character.

George W. Henry, Brooklyn, is a prominent member of the order of Free and Accepted Masons, having passed to high degrees. He has said: "Masonry requires to be made a religion; the strongest ties of connection between it and the cultivation of virtue, furnishing the manly propelling motive to goodness; that wherever a Mason goes he will find a friend in every brother, if he conducts himself well, and will be shielded against want and poverty by his brethren."

class of their buildings has largely influenced the character of the incoming population.

In the foremost rank of builders stands Mr. George W. Brown. Like the majority of those who have been successful business men in the city, he was born and bred in the country. He is a native of Columbia, Lancaster county, Pa., born September 18th, 1825. On the maternal side, he is descended from the Minnich family, who were noted in that region for their superior qualities. His mother was a woman of remarkable spirit, energy, perseverance and thrift, with more than ordinary intellect and common sense. Her children inherited her characteristics largely, but none to a greater degree than the subject of this sketch. When a boy, he attended school until he was twelve, when he took a clerkship in Halderman's, a well-known store in those parts. Though he performed his duties faithfully, they were irksome to him. He desired a more stirring, out-of-door life, with larger opportunities for gain. Accordingly, he left the store at the end of two years, and set up in business for himself as a news-dealer, being the first to introduce into his native place the *Philadelphia Public Ledger* and other papers of the day. He was a natural money-getter, and never without money in his pocket.

Ambitious for a wider field, in 1842, he came to Brooklyn, where an elder brother had established himself as a builder, and was apprenticed to him. After serving his time, he first secured a contract for putting up the fronts of buildings; then erected houses for sale on lots bought of John Treadwell, who had great confidence in him, and assisted him in various ways.

He built the first houses on Fulton avenue in 1849, at the corner of Hanover Place. By assiduous labor and shrewd enterprise he steadily pushed his fortunes, succeeding where others failed. He has erected 100 houses on Fulton avenue alone, and one-fourth of a mile of dwellings on Lafayette avenue, besides numbers in other good parts of the city. He, like many others, in earlier days invested largely in vacant lots, owning, up to the year 1857, about 600, in different parts of the city. The crisis of that year swept away his accumulations, and left him almost penniless. Nothing daunted, he commenced again with renewed energy and zeal, opening a real estate office for a few years, and carrying on the business of building in a small way as he was able. His added years and experience contributed to his success, and he steadily acquired a fortune the second time.

Mr. Brown was the first to introduce into Brooklyn the present system of building in flats, of which he has erected a large number, and on some of the best streets, Clinton and Washington avenues, Joralemon and other streets. In later years he has extended his operations, until he can now count over 800 houses in the city of Brooklyn of his own building; while, it is said, his name is attached to more conveyances of real estate than that of any other man in Kings county. In the way of exchange for Brooklyn property, he has acquired large landed interests in New Jersey, Virginia and the West. He owns the Braddock House in Alexandria, Va., built in 1733 of material brought from Europe, famous as the head-quarters of General Braddock, when George Washington was his aid; also where the thirteen colonial governors met to concert measures for the support of the Braddock campaign. The Riverside Hotel, in Chicago, has also come into his possession.

Mr. Brown is a very active business man, keeping a watchful eye and firm hand over all his diversified interests; his success is largely due to his directness of purpose and his self-reliance, pressing on in the course which his own judgment dictated, without seeking the advice of others; and, in

most cases, he met with better results than divided counsels or faltering steps could have secured.

Mr. Brown is a great lover of horses, of which he has owned and driven many during the last 35 years, among them some notable trotters. He now knows of but two men who drive on our pleasure roads who commenced when he did.

In person Mr. Brown is rather below the medium height, and spare; but his keen eye and quick movements indicate more than ordinary ability and mental force.

He has been twice married: in 1849, to Miss Dickinson, who lived but a few years; again, in 1860, to a Miss Webb, of Brooklyn. His family consists of a son and two daughters. His home is one of the most elegant in the city, a triumph of the builders' art. The family are attendants of St. James' Protestant Episcopal Church.

To politics Mr. Brown devotes little time; in former days he was a Henry Clay Whig, and now votes with the Democratic party. As a man, Mr. Brown is genial, progressive and charitable; as a citizen, he is public-spirited, and has contributed much to the development and improvement of the city; while in business circles he is well liked and respected.

O. DAVIS THOMPSON, 339 Madison street, architect and builder; established at Strafford Co., N. H., 1858; came to Brooklyn in 1868, and soon located at 375 Gates avenue, building 9 substantial dwelling-houses on the block, and many others on the neighboring streets and avenues; located at 339 Madison street, in 1880. E. N. DAY, 151 State street, established about 30 years ago, on Douglass, near Smith street. GEORGE DAMAN, 88 Luqueer street, established, 1864, on Atlantic avenue; among other works, he built the large wooden building and tower, put up by J. L. Haigh, William, corner Imlay streets, wherein all the wire for the Brooklyn Bridge cables was made. JOHN GUILFOYLE & SON, 180 High street, mason and builder; established, 1854, in Brooklyn; among the many buildings erected by this firm are the Kings County Alms-house and the Inebriates' Home.

JOHN LEE, JAMES CAMPBELL, GEORGE W. BRANDT, JOSEPH W. CAMPBELL, JAMES RODWELL, JOHN M. FARRELL, WILLIAM H. TUNISON, P. F. O'BRIEN, H. BEDDELL, WILLIAM TAYLOR, THOMAS B. RUTAN, JAMES ASHFIELD & SON, MICHAEL J. McLAUGHLIN, GEORGE F. CHAPMAN, and many others, have won a high reputation for skill and integrity in the erection of public buildings, warehouses, and private dwellings.

JOHN LEE.—Among the many builders of Brooklyn, John Lee is conspicuous both for the quality and quantity of work he has executed. He was born in Ireland, October 18th, 1834, and is an American citizen by adoption, having come to the United States, when a mere lad, with his father's family. His father was Daniel Lee, and the maiden name of his mother, who is still living at the advanced age of eighty-seven, was Lucy Murray. She is passing her declining years as an inmate of the house of her daughter.

In 1850, Mr. Lee began to serve an apprenticeship to the carpenters' trade with the once well-known builders, T. V. and J. V. Porter, who were located at No. 9 Hoyt street.



John Lee



 James Codwell



George W. Brandt



Langenscheidt



J. W. Campbell

JOSEPH W. CAMPBELL.—Prominent among the many men of Brooklyn who have attained to positions of honor through their own unaided efforts, is Mr. Joseph W. Campbell, of No 315 Carlton avenue. His parents were Aaron T. and Phebe (Mitchell) Campbell, and he was born at Morristown, New Jersey, August 11, 1819, and removed to Brooklyn, with his father's family, in 1826. He learned the builders' trade when young, and since 1840 has been prominently identified with the building interests of Brooklyn.

PATRICK F. O'BRIEN was born in the year 1839, near Manor Hamilton, County Leitrim, Ireland. His parents dying when he was quite young, he was brought up by his grandparents, and received his education at the parish school, and learned his trade in his native place.

He came to America in 1848, locating in Brooklyn, and first obtained work on the City Hall, which was then in the course of erection, as a journeyman carpenter, with Mr. Leonard Cooper, the contractor, with whom he remained in that capacity for three years, when, on the death of Mr. Cooper's foreman, he was offered the position, which he filled two years. At this time, having purchased some lots, he engaged in business for himself in a small way, building three cottages of his own. At that time there were scarcely any houses in the vicinity of Skillman street at its junction with Myrtle avenue, and people in that neighborhood were obliged to go to and from the ferry in stages, no car lines having been built in the city. From this beginning, having secured shops, Mr. O'Brien began to do a general contracting business, building public institutions, churches, schools, residences,

manufactories and many dwellings. Among the many churches built by him may be mentioned the Church of the Holy Redeemer, St. Anne's Roman Catholic Church, Westminster Presbyterian Church, St. Agnes' Roman Catholic Church, and the Church of the Holy Family, in Brooklyn, besides many in New York, including the Church of the Transfiguration and St. James' Roman Catholic Church, and the Church of the Sacred Heart at West Point. He also built the beautiful convent and other buildings of the Sisters of Mercy in Brooklyn, and the chapel and convent of the Sisters of St. Joseph at Flushing, Queens county, and a large number of public school buildings, including those of Brooklyn Schools Nos. 3, 7, 13, 15, 16, 23, 25, 28, 41, 42 and 43, besides many wings and alterations to such structures. St. Patrick's Academy and St. Anne's Schools are buildings put up by Mr. O'Brien, as were also the Cochrane building, and many others of the fine business houses which ornament the city; many expensive residences on Columbia Heights, and in other parts of the city; and some beautiful residences on Long Island, among them those of Hon. R. O'Gorman, Cornelius Deverand John W. Harper, at Sands' Point, where, for many years, Mr. O'Brien had a summer residence.

Mr. O'Brien has dealt heavily in real estate, and built some fine buildings as an individual investment on Bedford and Clermont avenues, and on Hewes and other of the best streets in the city. He continues in business with unabated energy, being of such an active temperament that it would be next to impossible for him to remain idle for any length of time. He was one of the organizers, and for many years president of the Globe Marble Mills Company of this city, which, at one time, practically controlled the marble busi-



P. F. (Friedrich)



Edw. H. C.



Wm. H. Miller

ness of Brooklyn. His connection with the Nassau National and East Brooklyn Banks is well known to those acquainted with the history of the commercial interests of the city.

In 1877, Mr. O'Brien made a trip to Rome with the Irish-American Pilgrimage, in the steamship *City of Brussels*, which, owing to a broken shaft, consumed 39 days in the passage from New York to Queenstown, and was, for a time, by many thought to have been lost at sea. This event was a source of great anxiety to Mr. O'Brien's family and friends, until intelligence of his safety reached them. Leaving his fellow pilgrims at Rome, Mr. O'Brien made an extended tour on the Continent, and visited his old home in Ireland.

Mr. O'Brien was married, in 1856, to Miss Anne Hughes, daughter of an old and respected resident of Brooklyn, and the marriage was blessed with four children, two sons and two daughters. Mrs. O'Brien promises to live to a ripe old age, in the enjoyment of the comforts and luxuries of the beautiful home her husband has provided for her.

In religion, Mr. O'Brien is a Roman Catholic, and has long been connected with charitable objects in the city. He was one of the founders, and for many years the treasurer, of St. Mary's Hospital, and has been a trustee of St. Patrick's Church since its foundation. Though a staunch Democrat, and often asked to accept public positions, he never mingled in politics nor held any office. He is a man of wide acquaintance, and is held in the highest esteem by all who know him. A noted patron of education, he has given his children fine educational advantages, of which he was himself deprived when young. He is known as a kind and indulgent husband and father, a true friend, and a man of public spirit and generous impulses; and those near and dear to him rejoice that his robust health and fine physique indicate that many more years of usefulness have been allotted to him.

THOMAS B. RUTAN was born in Newark, N. J., February 10th, 1837, and is a son of Henry A. and Harriet (Burnet) Rutan. He removed to Brooklyn, with his parents, in 1845, and his father, a builder, carried on his business there until his retirement, and died, at the age of sixty-three, July 1st, 1873.

Mr. Rutan was educated in the public schools of Brooklyn, and, at the age of fourteen, began to learn the trade of builder with his father, serving an apprenticeship of five years. From its expiration until 1862, he worked as a journeyman carpenter and builder. In September, 1862, he enlisted in Company A, 139th New York Volunteers, was mustered in as a sergeant and served as such till, in the fall of 1864, he was detailed as a sharpshooter and served as one until mustered out of service at the close of the war.

Returning north, Mr. Rutan went to Bridgeport, Conn., and worked at his trade about nine months, again taking up his residence in Brooklyn at the expiration of that time and engaging in business as a builder on his own account, in which he has continued very prosperously to the present time, being among the prominent men of the city in his line, and having erected some of the largest buildings in Brooklyn.

Mr. Rutan is a staunch Democrat, and has long been an active politician, but never an office-seeker, or an officeholder.

JOHN J. FROST, 574 Franklin avenue, builder and contractor; established 1866. JAMES FRANK 484 Lafayette avenue, builder and contractor; established 1859.

[illegible]

In 1850, Mr. Free, married Miss Catherine Murray, of New York. They have two sons and a daughter. Edward F. Free, the eldest son, is regularly employed in his father's business; and the younger son, Francis J. Free, though yet in school, renders valuable assistance therein, in a quiet way. Mr. Free, who is a native of New York, is somewhat of a politician, but the fact has repeatedly been noticed, that of honor and trust he has refused to accept from public men, because his tastes do not incline him to become entangled in political affairs, and partly because he has thought, and in the days of his prosperity, to give to his business his undivided time and attention, which he has succeeded in doing, to establishing it, and increasing it to a considerable and valuable proportion. Mr. Free, with his money, has secured that the House of Commons, of which he has been long a willing and a liberal supporter.

There is a house that John H. Edwards, Governor, England, Ohio, built in 1886 on one of the streets with Kate Edwards. From the information given to me by the daughter of the East Indian woman, the house of the present English apartment house (now built) was built with the same as the old one. The house was built by Edward Edwards, son of John Edwards, now 10 years old and lived in the house for his childhood and attended school. The house is now being built by Edwards, son of John Edwards, now 10 years old and lived in the house for his childhood and attended school. The house is now being built by Edwards, son of John Edwards, now 10 years old and lived in the house for his childhood and attended school.



John S Frost

French, afterward Building Commissioner of the city of Brooklyn. In 1863, he embarked in business as a contractor and builder on his own account, in which he was very successful. During the past ten years he has been engaged in speculative building and in real estate operations, his improvements in the portion of the city known as Bedford having been quite extensive.

Mr. Frost's interest in public affairs is such as must be felt by all true citizens; and as a politician he is quiet rather than active, though his influence in his section of Brooklyn is by no means small. He favors the Republican view of matters political, and has served the Ninth Ward as a member of its Republican Association, with which he has been for some years and is now connected. He is a member of Atlantic Lodge No. 50, I. O. O. F., with which he has been identified since 1852, and of which he has served as Noble Grand.

In April, 1854, Mr. Frost married Miss Sarah L. Whitney, a native of Northamptonshire, England, but at that time a resident of Brooklyn. The family are connected with the New York Avenue Methodist Episcopal Church, of which Mr. Frost has been one of the trustees since its organization. He united with the Methodist Episcopal Church at the age of fourteen, and has ever since been an active and consistent member of that denomination, having served officially in connection with several church organizations.

It is as a self-made man that Mr. Frost takes rank among his contemporaries in this city. His reputation is that of an

honest and thorough-going business man, and in all of the relations of life he has won the esteem of those who know him best.

T. B. JACKSON, 424 Clinton avenue, builder; established 1854. DAVID JENKINS (Jenkins & Gillie), 366-72 South 5th street, E. D., carpenter and builder; established 1872; from no capital invested, business has increased to \$100,000; first firm of builders in Brooklyn to make use of the telephone. CARDWELL & HAWKINS (Charles W. and Henry S.), 15 Lawton street, builders; established, 1880, 144 Devoe street; erected Reformed Episcopal church, corner Keep street and Marey avenue, and the Janes M. E. church, corner Reid avenue and Monroe street. ABRAM RUTAN, 957 Putnam avenue, mason and builder; established 1865. JOHN ROME, 334 Schermerhorn street, carpenter and builder.

JOHN ROME.—In Dumfriesshire, Scotland, near the village of Annan, on the banks of Solway Firth, John Rome was born in 1815, the eldest son of a large family of children. His ancestry on his mother's side belonged to the family of the Grahams, descendants of the numerous and powerful clan of that name, who are prominent in the annals of Scottish history, while the family of the Romes lived on the



John Rome

border for many years. His father was a farmer, a man of excellent character, highly respected in Annan, but not wealthy. He found the support of his family from the farm to be difficult, and therefore decided to emigrate to the newer country, where the soil made more generous returns for the labor expended in its cultivation, and the conditions of life were more favorable for the industrious poor man. So in 1820, he sailed for New York with his wife and little family, landing there on Christmas Day. The first year he rented a farm in Oyster Bay, but the next year, 1822, he bought a tract of land in the town of Huntington, where he lived during the remainder of his life. The farm lay near the hamlet of West Hills, the highest land on Long Island, and there his son John, the subject of this sketch, grew up, assisting his father during the season in out-of-door work, and attending the district school for three months in the winter. Affairs prospered with the family until the loss of their house by fire, in 1831, entailed additional labor and some privation, while replacing what had been destroyed. When a young man, Mr. Rome showed a good degree of mechanical ingenuity and aptness in the use of tools, making all the wooden implements needed on the farm, and even being employed upon buildings that were in process of construction in the neighborhood. With his taste inclining in this direction, and ambitious to excel, he studied what books upon architecture and building he could procure, uniting theory with practice, until he was able to successfully plan and build several houses in the vicinity. As his younger brothers grew up and took their part in assisting in the farm work, Mr. Rome felt that he ought not to stand in the way

of their advancement, but rather to seek new fields of labor. With his practical knowledge of building, natural aptness, good judgment and industrious habits, he felt confident of making a living, at least, at the carpenter's vocation. In 1844 he came to Brooklyn and found work, at first by the day, until his savings had given him a little capital. After a time, he happened in at a sale of real estate at an auction room in New York, where two lots on Schermerhorn street, in this city, were under the hammer and going at a figure within his means. Confident that city lots in Brooklyn would increase greatly in value, he bought the property, and it proved to be the "flood tide" in his affairs that led him on to fortune. He built two houses, which sold advantageously, paying the way for future investments of a similar kind. By faithful, honest work, done under his personal supervision, he acquired a reputation for thoroughness and excellence in construction, so that his houses sold readily at remunerative prices. He has continued in the business of buying, building and selling for some years, erecting many first-class residences in various parts of the city, building into his work the honest faithfulness of his Scotch ancestry, and gaining for himself a good name, of which any man might well be proud.

The lack of educational advantages in his youth he made up by learning of his younger brothers and sisters as they studied at home, and by a course of careful reading in leisure hours; when he was sixteen he applied for and obtained the office of librarian of the school district, and read with business the well selected, though small, collection of books thus placed in his charge. The district had no reading facilities

... observation of men
... practical knowledge which is

As a citizen, Mr. Rome is one of the intelligent, thinking, and energetic members of the body politic, and who make up enlightened public opinion. Well informed in the principles of his country, he lives up to his convictions or right, expressing his preferences at the polls, generally favoring the Democratic side, but not entering into the details of politics or taking any active part in caucuses and primaries. He thinks, with Sam Slick, that there are "cleaner things to handle and pleasanter to smell." As might be supposed from his Scotch descent, he is an attendant upon the Presbyterian Church, and a staunch supporter of religious and charitable institutions. His business, his reputation and his fortune have grown apace, while he is as generous in the use of money as he is honorable in its acquisition. Still actively engaged in the duties of his calling, he manifests all the enterprise and energy of his earlier years, with additional knowledge, skill and caution, gained from ex-

Mr. Rome is tall, broad-shouldered and robust in person, the weight of years resting lightly upon him. In a handsome home he enjoys with his family the rewards of his industry, and among men he is valued for his honor, integrity and manhood.

BERNARD STRYKER, 260 Jay street, builder and carpenter; established 1834; joined the Volunteer Fire Department of Brooklyn, 1827; elected assistant engineer, 1836; elected chief engineer, 1839; served 10 years; elected Fire Commissioner of Western District, 1858; served 9 years; served 1 year as Collector of 3d ward, and 4 years as Alderman for 4th ward. H. M. SMITH, Van Siclen avenue, E. N. Y., mason and builder; established 1857. STILLMAN SOULE, 412 Gates avenue, carpenter; established 1882; direct descendant of a Pilgrim, who landed at Plymouth, 1620. MORRIS & SELOVER, 39 DeKalb avenue, carpenters and builders; established, 1868, corner DeBevoise place. THEODORE W. SWIMM, 389 Putnam avenue, builder and real estate; established, 1882, 394 Gates avenue; native of Michigan; came to Brooklyn in his 16th year; served his apprenticeship as carpenter with Mr. William M. Thomas, in a shop on Livingston street, where the Court-house now stands. LEWIS J. WARD, 248 South 5th street, carpenter; grandson of Lawrence Brower, who kept the old Black Horse Tavern, on the site of the Brooklyn Theatre. JAMES P. MILLER, 299 Sumner avenue, carpenter and builder; established, 1849, at 60 Wyckoff street. THOMAS B. WATSON, 363 Atlantic avenue, mason and plasterer; established, 1866, at 196 Pacific street, succeeding his father at that time; was a member of the Brooklyn Fire Department; assistant foreman Eureka Hose Company, No. 14; member Pacific Hose Company, No. 11; Master of Long Island Lodge, No. 382, three years in succession, and Alderman, 3d ward, 1883. Among others in this line are, also, ANDREW MILLER, 1,527 Pacific street, established 1856; THOMAS B. WATSON, 363 Atlantic avenue, who

carries on the business; established on Henry street, near Clark, 1839, by his father, John O. Burnett; moved to present location in 1846; partnership formed, 1857; the father retired 1868; he came originally from Elizabeth, N. J., in 1824, and was foreman for D. Valentine, whom he succeeded, in 1829.

JAMES WEAVER.—The late James Weaver was a son of Benjamin and Mary (Engle) Weaver, and was born in New York in September, 1814, and in infancy removed to Brooklyn with his parents. He was reared and educated in the city where he afterwards became so well known; and, in company with his brother, William Weaver, built and operated for a short time the old Weaver sash and blind factory, on Nassau street. The building is yet standing, but has been converted to other uses.

Retiring from that enterprise, Mr. Weaver began speculating in real estate, was very successful, and came to be recognized as an authority on all questions of values arising in Brooklyn real estate transactions. He was long the owner of the valuable plot at the corner of Court and Remsen streets, on which the building of the Dime Savings Bank has recently been erected. Having amassed a competency, he retired from active business, but was afterward identified with banks, insurance companies and other corporations. At the time of his death, which occurred June 22, 1881, he was director of the Nassau Insurance Company.

He married Anna Katharine Willis, daughter of Leonard Willis, of New York. They had one son, James E. Weaver, who married the youngest daughter of Mayor Kalbfleisch, and died at the age of thirty.

Early in life, Mr. Weaver was an old line Whig, but in the transitions in political matters which marked the period in which he lived, he became a Democrat, and so continued until his death. But he was in no sense a politician; and, though often solicited to do so, resolutely refused to be identified with political movements of any kind. In private life he had numerous warm friends, numbering among them many of the most prominent men of New York and Brooklyn. He was known in business circles as a man of uncompromising integrity. His death was deeply regretted by all who knew him.

JOHN H. O'ROURKE.—The name of O'Rourke has for half a century or more been known in modern Brooklyn. In 1830, about the time of the first general influx of Irish emigrants into the then small city, Patrick O'Rourke arrived, and not long afterward opened a blacksmith shop in Jay street, near High, which was burned in 1832. Later, Mr. O'Rourke became a contractor, and as such was for many years favorably known in Brooklyn. He died in 1879.

John H. O'Rourke, son of Patrick and Mary O'Rourke, was born in February, 1840, in Dean street, near Court, in an old farm-house which was at that time his father's residence, and was torn down only a year or so ago. He attended the public schools, thus gaining the rudiments of a practical education, and at the age of nineteen began to learn the brick-masons' trade with James Ashfield. He was thus employed about three years, and was then ready to trust his fortunes to his skill as a workman.

From 1861 to 1864, Mr. O'Rourke was attached to the engineer corps of the department of the Gulf and served in Florida, working on government fortifications. Returning to Brooklyn, he resumed operations in his line; and, in 1866, was appointed superintending mason for the Park Commis-



James H. Haver



John, Robert Courke

sion, a position of responsibility, which he filled with credit till 1871.

Mr. O'Rourke now became a contractor, and, in 1872, built the Thirteenth Regiment Armory, a structure which will long remain as a monument to his skill. Since that date he has erected numerous churches, public buildings, stores, warehouses, business blocks, public school buildings and residences, and is regarded as one of the most enterprising men in his line in this city.

Though a Democrat, Mr. O'Rourke has always been too busy to become an active politician, though in a quiet way he has much influence in his ward, and his name has been more than once mentioned in connection with places of public trust. In 1872, he married Miss Agnes Lennan, of New York.

FREDERICK HERR.—The family of Herr originated in Saxony. Christian Herr, great-grandfather of the subject of this sketch, was in Bavaria with the German army early in this century, and, falling in love with a native woman, married her, and remained in Bavaria during his life, founding the Bavarian branch of the family. One of his sons, Johannes, was Frederick Herr's grandfather, and Frederick Herr's father bore the same Christian name, and married Magdalena Boell, who had three sons and a daughter, of whom Frederick, the youngest, was born in Bavaria, March 28, 1829.

Young Herr was reared on his father's farm, and received the rudiments of his education in a Catholic school, in his native town. At the age of ten, he entered a Protestant school, in a neighboring village, and remained there three years. Later, he was, for two years, a student in a higher school, at another town, about eight miles distant from his home. After he left this school, his father kept him busy on the farm for the greater part of a year, desiring that he should become a thorough farmer and take charge of the place, thus relieving his father of many cares. But the boy was bent on becoming a merchant, and, after vainly trying to enter upon a commercial career in his native land, resolved to emigrate to America, a project which was long opposed by his father, but which he put into execution when he was only sixteen.

Young Frederick Herr arrived in New York with a capital of only five francs, and this he paid out for his first night's lodging in America. His German journey of thousands of miles, and arrival in America, which he reached the morning of the following day, he had not so friendly a reception as he expected. He was not so friendly as he expected to be. His father had for years been a member of the German Consul, and was accustomed to receive a cordial and friendly reception from the Consul and his family.



B. Herr

in the time of need if he showed a disposition to go to the bad or fell into difficulties of any kind. Leaving the scene of his first labors in America, Frederick crossed over to Williamsburg, and was employed for three months, at \$6 per month, and board, by another market-gardener, on Broadway, near Maujer street.

Next we find the young emigrant in Houston street, New York, learning the trade of baker, and later, during a period of seven years, he was a clerk in a grocery, at the corner of Grand street and Goerck. Here he saved some money, and, in 1857, established a bakery in Brooklyn, on Bridge street, near York. He continued successfully in this business for six years, amassing the beginning of his present fortune, then engaged in the real estate business, in which he has continued to the present time. In 1872, he began building, and has since combined the two businesses. He employs fifty carpenters and other laborers, and builds, on an average, from twenty to thirty dwellings a year, confining his operations chiefly to the 16th, 18th, 21st and 25th wards.

Mr. Herr is prominently identified with many of the leading interests of his part of the city. He is a trustee of Bushwick Savings Bank, treasurer of St. Mark's Lutheran school, located at the corner of Evergreen and Jefferson streets, and manager of the Eastern District Dispensary, a charitable institution, on Myrtle avenue, near Throop.

Mr. Herr was married, in 1857, to Miss Mary Lauth, a German lady-resident in Brooklyn, who died in 1874, leaving two sons named Charles and John, one of whom is fitting himself to become a carpenter and builder, while the other is studying architecture, and who will worthily succeed their

father upon his retirement. November 24, 1882, Mr. Herr was married to his present wife, who was Miss Meta Gieseler, of Brooklyn.

JOHN DOHERTY was born in county Donegal, Ireland, sixty-seven years ago, a son of Roderick and Annie (Lynch) Doherty. Many generations of his ancestors had been born, had lived and had died in the same locality. Receiving a meagre education in his native place, Mr. Doherty came to America in 1837, located in Brooklyn and began business life as a contractor and builder. Gradually he extended his operations, speculating in real estate more and more as time passed, until at this time he owns city property in nearly all parts of Brooklyn. In Brooklyn alone he has built four hundred to five hundred houses, and at different times he has erected many in New York and elsewhere.

Mr. Doherty's business career has been a remarkably successful one, and though its period has been marked by numerous financial crises, he has never compromised a debt and has never had a lien upon any one of the many buildings he has put up, and no judgment has ever been obtained against him. His most conspicuous characteristic has been unyielding integrity, and no man has a better reputation for according to all mankind that which is justly due from him. Whether in his relations with real estate owners, with dealers in builders' materials or with thousands of employes, the same straightforward course has ever characterized him. In every relation of life he is known as the Creator's noblest work—an honest man. It is probable that few men in Brooklyn have done more than Mr. Doherty to extend its



John A. Hart



D. McCabe

visible limits, to build it up and to make it desirable as a city of homes. It is estimated that the houses he has built and owned, and the lots on which they stand, constitute an assessable addition to the tax budget of the city of over \$130,000. Go where one may within the city limits, few blocks will be passed that do not contain houses built by Mr. Doherty, and they are especially numerous on "the hill," in Eighth avenue and Berkeley Place, where he has operated extensively during the past few years. Mr. Doherty was married, May 7th, 1846, to Miss Elenor Gelston, of New York, who has borne him five children—two sons and three daughters. Politically, Mr. Doherty is a Democrat in opinion, and takes a deep interest in all questions affecting our republican institutions, but he is not, as the term is ordinarily applied, a politician, and has resolutely refused to become a candidate for office, though often strongly urged to permit his name to go on the ticket, preferring to devote all of his time and attention to his large and increasing business.

DANIEL MCCABE, one of Brooklyn's best known real estate operators and general business men, was born in County Carlow, Ireland, in 1832, and came to America at the age of twelve. He was educated in the public schools of Brooklyn, and at the age of twenty began to speculate in real estate, buying and selling building lots and residences in different parts of the city, a business in which he has continued to the present time. Formerly he was prominently identified

with the building interests of the city. In 1865 he built the first brown stone houses erected on Fulton street, between Washington avenue and St. James's Place, and later bought largely between Franklin and Classon avenues. He now owns and leases many buildings throughout the city, the majority of them being located on Fulton street and Myrtle avenue. These enterprises of Mr. McCabe's, while projected and prosecuted primarily for private gain, have inured greatly to the benefit of the city and the public at large. Mr. McCabe has also been long interested in commerce, looking the general development and improvement of the city for their primary object. He was conspicuous among those who first encouraged rapid transit for Brooklyn, chairman of the organizers of the Fulton Park, of which he was for some years a director, and is at present a voluntary, unpaid, about six years gratuitously as the president of the Park System Park, and managed the same in winding up of its affairs so often referred to in these days of doubtful banking transactions, and has been for some time a member of the Board of the Nassau Fire Insurance Company. As his political sympathies Mr. McCabe is a Democrat, but he has ever been too busy to interest himself actively in politics. During the administration of Mayor Kalbfleisch, he was for some years a member of the Board of Education.

Mr. EUGENE THOMAS has been a citizen of Brooklyn during the past forty-four years, and has been identified



Robt Thomas

of Brooklyn grow from a country village of 4,000 population to its present important proportions. He is a son of Robert and Mary (Heaman) Thomas, and was born August 16th, 1823, at Torrington, Devonshire, England, where his father, a carpenter and builder, lived until 1831, when, with his family, he emigrated to America, locating in New York, the subject of this sketch being at that time eight years of age.

Mr. Thomas enjoyed only brief and meagre educational advantages, after his arrival in New York attending a private school kept by a Mr. Lockwood, in Wooster street, until he reached the age of thirteen, when he became a clerk in the grocery store of Brilton & Young, at the corner of Greene and Amity streets. At the age of fifteen, he was apprenticed to George Higgins, on Frankfort street, between Cliff and Jacob streets, to learn the manufacture of architectural wrought-iron work and of tools for use by manufacturing jewelers and silversmiths, where he remained five years, becoming master of both branches of industry.

In 1844, Mr. Thomas removed to Williamsburg and opened a shop, in the line of his former employer, on South Fourth street, where he was measurably successful until 1849, when, having become a victim of the then prevalent "gold fever," he went to California, delving with indifferent success in the mines of that region from May to September of the year mentioned, and losing his left eye by an accident while blasting. Returning to Williamsburg, he again embarked in his former business, his shop being on Broadway, near Fourth street, and from 1851 to 1858 was so energetic and successful that, during the last mentioned year, he was enabled to buy the establishment of George Higgins, his once employer, which had some years before been removed to

Williamsburg, where Mr. Higgins had long had a branch shop.

Mr. Thomas continued in business very successfully until the spring of 1877, when he retired from active life, and has since been carrying on a desultory and speculative trade in houses and lots in his section of the city, until within the past two years, during which he has taken a prominent part in the management of the educational affairs of the city, having been appointed a member of the Board of Education of the city of Brooklyn, in 1882, for a term of three years. Politically, he was formerly a Whig and is now a Republican. With his family, he is identified with the South Fourth street Presbyterian church. In 1847, he was married to Judith Maujer, a niece of Daniel Maujer's, who died in May, 1851, leaving a daughter, who is now Mrs. Albert Weaver. In 1856, he was married a second time, to Miss Hannah Arnot, of Orange county, N. Y., by whom he has one daughter. He is often pointed out as one of the numerous men in Brooklyn who have successfully waged the battle of life against many disheartening disadvantages.

BENJAMIN T. LYNCH.—Andrew Lynch settled where Paterson, New Jersey, now is, in 1798, and for many years afterward was the proprietor of a cotton mill on the Passaic River. He and his wife both died during the years 1814 and 1815, and one of their sons, Thomas Lynch, then a mere youth, came to Brooklyn in 1820, and for a time was employed in a rope-walk bounded by Bridge, Tillary, Pearl and Concord streets. In 1825, he opened a grocery at the corner of Bridge and Tillary streets, and for forty years carried on a successful business there, which for many years before he



G. T. Lynch

relinquished it, was one of the most extensive in the city. He gradually engaged in real estate transactions, and became one of the heaviest operators in the city. During his business career and his retirement, which dated from 1865, he was the friend and associate of the most prominent Brooklynites of his time. He died in 1873, the death of his wife, whose maiden name was Mary Lynch, having occurred in 1852.

Two of the sons of Thomas Lynch are among the best known business men of the Brooklyn of to-day. David T. Lynch, the younger of the two, is a popular lawyer and merchant, being the proprietor of the business of the Whitehouse Shoe Company, and is widely known and respected in business circles.

The other, Benjamin T. Lynch, an extensive real estate operator, was born in Brooklyn, February 7th, 1841; was educated at private schools, and learned the real estate business in the office of his father, where he was employed from an early age. At the death of their father, Benjamin T. and David T. Lynch became the owners of his real estate in Brooklyn and vicinity, and to the valuable estate he owned

in its management, Benjamin T. Lynch has ever given his attention.

Fearless and independent politically, Mr. Lynch has long had the best interests of the governing city at heart, and has given a noble support to every measure looking toward its development and improvement. He is a dedicated secretary of the Brooklyn Underground Railway Company, and a stockholder in several commercial institutions of a high character.

At the present time, he is a well known agent for the sale of the following real estate: No. 100, 101, and 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

We have already published two valuable works, "The Art of Building Houses" and "The Art of Building Houses" by the same author. The results generally were, that the houses first erected by a builder were not so good as those built by a carpenter. Of the same kind, if there was any something and a good

quent yielding of prices, the builder usually lost money, or made very little, on his first houses; but this did not, as a rule, deter him from continuing to build "speculation houses." There was an excitement akin to that of gambling about the business, which led to further ventures, and in these, by economizing here and there, using poorer lumber or inferior bricks, or poorer quality of the brown stone, where these would be out of sight, making the party walls lighter and less perfect, cutting down upon the plumbing, using inferior mortar and cement, lighter timber, and the cheap factory-made doors, sash and blinds, they generally succeeded in making a moderate and sometimes a large profit. The houses, once off their hands, gave them no further concern. But this triumph of fraud and greed was after all generally short-lived. The intensity of the competition in these buildings led constantly to new improvements, which, when once introduced, were always insisted upon by the wide-awake buyer, whose wits were sharpened by the points he gathered in his travels among the builders who had houses for sale; whatever was the novelty just then in vogue it must be had in every new house; whether it were hard wood doors, stairs and wainscoting, three stationary washtubs instead of two, bronze door and window trimmings, cedar closets, massive window guards and iron storm doors, mansard roofs, with or without gilt railings, extra finishing in the dining rooms, superb bath rooms, deadened walls or sanitary plumbing, it must be had. As these things constantly enhance the price, the shrewder builders managed to make some money, as there were still chances for slighting the work where the frauds would not be readily discovered. But very many of the weaker men in the business went to the wall, and it was mainly from among these that the short-lived cry for cheaper houses of narrow width, two stories in front and three in rear, or of cheap brick and mastic fronts, was started. The rage for these did not last.

The erection of "flats" or *apartment houses* was, for the most part, begun and promoted by the real estate dealers and agents. It required a larger amount of capital than most of the builders had at command, as the flats were usually put up in large blocks, and in those best constructed, with an inner court, or at least a lighted central stairway and elevator shaft. They were not built to be sold, but to be rented, and hence it was desirable, especially in the best class, that they should be well and substantially built.

That this business has been overdone, we fully believe. It was inevitable in the nature of things; for, when fierce competition and a large amount of capital seeking profitable investment were factors in the undertaking, over-production could not but follow. Still, so rapid is the growth of our city, and so great the demand for dwellings of respectable appearance, that

it will, probably, be some time before the unwisdom of much of this style of building will be fully manifest. Of course the cheaper classes of flats will depreciate most rapidly.

Of the *apartment houses* of Brooklyn, that of Mr. FOUGERA, on the corner of Clinton and Atlantic streets, is perhaps in point of convenience, finish, etc., the best example.

A still more interesting development in this class of dwelling is that of improved *workingmen's homes*, a form of building investment which has for its basis the philanthropic object of providing homes cheap and healthful and convenient, in every economic and sanitary feature, for those of very moderate means. The houses erected with this design in London by the Peabody Fund, by Sir Sydney Waterlow, the London Improvement Co., etc., have proved a great success in elevating the home-life of the laboring classes. We are glad to know that Brooklyn has in Mr. White's enterprise (a description of which we give from the April, 1884, number of *Harper's Magazine*), similar houses in every respect, both of construction and success, worthy to be compared with these English enterprises.

Mr. Alfred T. White commenced his work in 1876, and in some respects his experiments have been even more successful than any in London. The first "Home Buildings," with forty dwellings and five stores, on Hicks street, Brooklyn, five minutes' walk from South Ferry, were opened February, 1877, and were immediately filled. A second adjoining block, facing on Baltic street, without any stores, was opened October, 1877. Three "Tower Buildings," on the next block, very much finer in appearance than their neighbors, were opened in 1878 and 1879, the five aggregating 218 dwellings (1 of 6, 25 of 5, 147 of 4, 45 of 3 rooms), and 15 stores, housing about 1,000 people. Each of these dwellings has living-room and scullery as well as bed-rooms, it being a cardinal principle (as in the Waterlow buildings in London) that each family shall have every requisite within its own private domain. Each family has also a storage bin for coal, etc., in the basement.

The floors are planned alike from bottom to top, which permits a considerable saving by the duplication of materials. The buildings are of plain red brick; slate stairways wind up a shaftway, inclosed in a solid wall, opening *out-of-doors* upon balconies, where each tenant has a separate entrance, and they terminate on a flat, gravelled roof for clothes drying and for play. In the "Tower Building," three shaftings constitute the tower by which means an element of beauty is introduced which the "Home Buildings" lack.

The cost of the first "Home Building" is given at about \$7,000 for the four lots of land, and \$30,000 for the building itself. The average price of dwellings throughout the buildings is \$1.93 per week for four, and \$1.48 for three room dwelling; the lowest prices,

\$1.50 and \$1.30, these last being on the top floor, whence ten cents is added each floor downward.

Each tenant is given an account card for the year, with the rules and space for his weekly payments. Of these prices there is a discount of ten cents per week to those who pay four weeks rent at a time in advance, which one-fourth of the tenants have done regularly, and there is a second rebate of ten per cent. to tenants who, by remaining the full year, from 1st of May to 1st of May, save to the building the wear and tear of removals.

The buildings have nevertheless earned a gross revenue of thirteen per cent., of which in round numbers two per cent. goes for taxes, two per cent. for repairs, one per cent. for expenses, while the net eight per cent. has been used—two per cent. for improvement and extension, and six per cent. for dividends. Here is a prospect for wise capitalists.

Among the features of these buildings are a free reading-room and lending library, and free baths; the home-sense of the tenants is also encouraged by permitting each to choose his own wall-paper within certain limits of cost. No rooms remain unlet. There is always a long list of applicants in advance for any vacancy.

The remarkable feature of Mr. White's miniature city is, however, the two blocks of dwelling-houses known as "Warren Place."

On a plot of land, 112 feet frontage on Warren and Baltic streets and running through 200 feet from street to street, this private way, with a tiny green its whole length, has been laid out, and on either side thirty-four little brick houses of two and three stories have been built.

A cartway for ash-carts, grocery wagons, etc., runs in the rear of each set.

The two-story and basement houses are 11½x32 feet, and have six rooms each.

They cost but \$1,100 each, exclusive of land, and they rent for \$18 per month. They are pretty and have every convenience.

By this experiment, Mr. White has shown that even on city lots costing \$4,000 for 25x100 feet, such dwelling can be profitably rented for about \$250 a year. It is not yet, however, the pre-millennial age, and capital still prefers the drifting sands of Wall street to this building on a rock.

Among the best known builders of the city we may mention the following:

Abram Allen.....146 Pierrepont street.
Jno. D. Anderson.....225 Raymond street.
James Ashfield.....244 Grand avenue.
Adams & Donaldson ...178 So. Portland avenue.
Lewis Acor.....374 Tompkins avenue.
Richard C. Addy.....592 Willoughby avenue.
S. F. Bartlett.....209 Clymer street.
W. C. Booth.....253 Carleton avenue.

J. W. Booth.....111 Freeman street.
Henry J. Brown.....100 East Second street.
P. F. Burns.....624 Grand avenue.
Geo. W. Brown.....707 Fulton street.
Stephen J. Barrows.....302 Avenue street.
H. B. Butler.....Bergen street.
E. H. Burnett.....30 Poplar street.
Chester Bedell.....307 South street.
Daniel Brown.....Fulton & Portland avenues.
O. J. Buckley, Jr.....104 Bedford street.
Jno. K. Bunker.....311 Adelphi street.
A. K. Buckley.....180 Kosciusko street.
Elbert Brush.....38 North Oxford street.
Hiram Bush.....734 Gales avenue.
Geo. W. Brandt.....164 55th street.
Jno. J. Brennan.....151 Lee avenue.
Alex. Barnie, Jr.....377 Gold street.
Patrick F. Burns.....624 Grand avenue.
Beard & Kingsland.....Hamilton ave. n. Clinton st.
Marvin Croas.....41 Bedford avenue.
Jno. Clarke.....1119 Greene avenue.
Geo. B. Colyer.....359 16th street.
Wm. Corrigan.....223 11th street.
Thos. Corrigan.....310 10th street.
John Cregier.....709 Greene avenue.
Francis Curran.....21 St. Felix street.
C. Cameron.....145 Washington avenue.
P. J. Carlin.....549 Clinton avenue.
Parmenas Castner.....162 Prince street.
Peter Concannon.....156 Wythe avenue.
Geo. Cook.....201 Ft. Greene place.
J. W. Campbell.....315 Carleton avenue.
Coles & Goodfellow.....Gravesend.
P. Carlin & Sons.....440 Van Buren street.
Chas. H. Cardwell.....15 Lawton street.
Geo. Damen.....88 Luqueer street.
Jas. J. Doig, Jr.....24 Franklin street.
T. S. Denike.....829 Herkimer street.
Gilbert De Revere.....663 Greene avenue.
J. Demott.....278 Schermerhorn.
C. Dietrich.....27 Boerum place.
Thos. Donlon.....157 Pierrepont street.
Jas. W. Dearing.....434 Henry street.
John Denithorne.....843 Dean street.
E. H. Day.....151 State street.
James Duff.....100 York street.
C. M. Dethlson.....103 Van Dyke street.
Jesse M. Folk.....205 Nassau street.
Wm. Flannagan.....46 Berkeley place.
John S. Frost.....574 Franklin avenue.
D. H. Fowler.....360 Waverly avenue.
Maurice Freeman's Sons.....286 Warren street.
A. A. Fardon.....119 Carleton avenue.
Edw'd Freel.....484 La Fayette avenue.
John Guilfoyle.....180 High street.
B. Gallagher.....273 South Street.
Thos. Green.....195 6th avenue.

John Thomas..... 200 Chambers street.
 "Tim. Thomas..... 200 Chambers street.
 Wm. T. Thomas..... 200 Division avenue.
 Henry P. Gerst..... 276 South 9th street.
 Wm. Green..... 506 Clinton street.
 Thos. E. Greenhill..... 200 Kossisko street.
 H. Green..... 200 Willoughby avenue.
 Paul Heer..... 125 Broadway.
 W. H. Henshaw..... 211 Schermerhorn street.
 Wm. H. Hunt..... 200 Navy street.
 Henry Henson..... 200 Washington avenue.
 President of the Manhattan Plate Glass Insurance Co.; ex-
 ecutive Secretary of the Kings County Board of the Board of
 Education in 1870; Alderman for the 11th Ward in 1852
 and 1853; President of the W. about Improvement, and the
 extension of Washington street; re-elected as Member
 of the Board of Education, in 1871; First President of
 Mechanics' and Traders' Exchange.
 Richard H. Heasman..... 904 Madison street.
 Mansfield Hunt..... 137 South 5th street.
 Jacob Hart.....
 T. B. Jackson..... 424 Clinton avenue.
 C. A. Jackson..... 34 Halsey street.
 W. E. Jackson..... 34 Halsey street.
 C. L. Johnson..... 158 Bedford avenue.
 W. J. Kerigan..... 258 Pearl street.
 J. P. Kinney..... 418 3d street.
 Jos. I. Kirby..... 73 Gates avenue.
 F. J. Kelly..... 138 Dean street.
 William Kohlmeier..... 318 South 1st street.
 John Lee..... 216 State street.
 James Lemox..... 128 2d street.
 Benj. Linikin..... 216 Greene avenue.
 Chas. Long..... 383 11th street.
 Long & Barnes..... 114 Clermont avenue.
 James Lock..... 606 Willoughby.
 Wm. Lamb..... 200 Rodney street.
 Thos. Lamb, Jr..... 234 Rodney street.
 James R. Lawrence..... 236 Park place.
 Leonard Bros..... 735 Bergen street.
 D. W. L. Moore..... 131 Colyer street.
 John Monas..... 92 Park place.
 D. T. McFarlan..... 662 Gates avenue.
 Morris & Seelover..... 39 DeKalb avenue.
 Martin & Lee..... 440 Clermont avenue.
 Henry McQuilkin..... 162 Walworth street.
 Peter Modest..... 387 Marion street.
 John Magilligan..... 56 Berkeley place.
 John J. Mills..... 496 Gates avenue.
 Andrew Miller..... 1527 Pacific street.
 James P. Miller..... 299 Summer avenue.
 Wm. H. Merrill..... 200 Carroll street.
 E. H. Moubray..... 317 7th street.
 P. Mulledy..... 576 Quincy street.
 John McNamée..... 477 Kent avenue.
 M. Myers..... 888 DeKalb avenue.
 Jas. H. Mason..... 277 Carlton avenue.
 Daniel J. Jones..... 200 Bleecker street.

Daniel B. Norris..... 259 Clifton place.
 P. F. O'Brien..... 164 Bedford avenue.
 John H. O'Rourke..... 119 38th street.
 George Phillipps..... 177 Hancock street.
 George Perkins..... 264 DeGraw street.
 Robert Payne..... 340 Willoughby avenue.
 Charles B. Piper..... 88 North Oxford street.
 Herman Phillips..... 289 Jefferson street.
 Samuel J. Peden..... 399 Marcy avenue.
 John V. Porter..... 184 Park place.
 John J. Quin..... 469 Macon street.
 S. M. Randall..... 571 Lorimer street.
 John Rome..... 334 Schermerhorn street.
 Daniel Ryan..... 733 Third avenue.
 James Roper..... 109 Halsey street.
 Myron C. Rush..... 329 Franklin avenue.
 William J. Ryder..... 128 Quincy street.
 T. A. Remsen..... 913 Atlantic avenue.
 F. B. Rutan..... 175 Monroe street.
 James Rodwell..... 89 Division avenue.
 John F. Ryan..... 187 Hewes street.
 John C. Rustin..... 79½ Clermont avenue.
 T. W. Rollins..... 35 South Oxford street.
 A. Rutan (Mason)..... 957 Putnam avenue.
 John Ruger..... 258 Moore street.
 John Rawson..... 219 Clymer street.
 W. C. Russell..... 58 Hancock street.
 Elbert Snedeker..... 391 Greene avenue.
 Howard J. Smith..... 478 Clermont avenue.
 J. N. Smith..... 371 LaFayette avenue.
 John Stafford..... 53 Dean street.
 J. E. & J. H. Stevenson..... 14 Hoyt street.
 C. L. Smith..... 157 South 8th street.
 C. P. Skelton, Sr..... 1011 DeKalb avenue.
 Jos. Simms..... 201 Fort Greene place.
 L. W. Seaman, Jr..... 2 Fort Greene place.
 Thomas Stone..... 471 State street.
 W. Schepper..... 126 Carleton avenue.
 John Smith..... 178 Chauncey street.
 F. Sloat..... 349 Tompkins avenue.
 James Shannon..... 87 Clermont avenue.
 Stillman Soule..... 427 Gates avenue.
 Peter Sullivan..... 389 Lewis avenue.
 John C. Sawkins..... Flatbush.
 C. B. Sheldon..... 362 5th street.
 Matthew Smith..... 248 Lorimer street.
 J. P. Seeley..... 130 LaFayette avenue.
 Wm. M. Thomas..... 362 9th street.
 Jas. A. Thompson..... 300 Lexington avenue.
 Jas. H. Townsend..... 60 Putnam avenue.
 Arthur Taylor..... 164 Lewis avenue.
 Rulof Van Brunt..... 134½ 11th street.
 J. M. Van Wicklen..... 217 South 4th street.
 Peter W. Voorhees..... 460 Carlton avenue.
 S. C. Whitehead..... 196 Halsey street.
 Wm. V. Williamson..... 380 Dean street.
 Wm. S. Wright..... 233 Cumberland street.



Bo. Miller





Stephen B. Bull

Smith Wood.....698 Gates avenue.
James Williamson.....626 Gates avenue.
David Weild.....358 Gates avenue.
C. W. Williams ... 557 Broadway, E. D.

BENJAMIN C. MILLER. A farm-house in the township of Somers, Westchester county, N. Y., was Mr. Miller's birth-place. He was born May 10th, 1832, the fourth in a family of eight, of whom five are still living. His father, Joseph Miller, now eighty years of age, is as erect in stature and firm in step as is Mr. Miller himself to-day. His mother died many years ago.

The little red school-house in which Mr. Miller, with the other youth of the neighborhood, received what was then deemed ample instruction for a farmer's son, stood, until very recently, about a mile from the old homestead, but has now been replaced by a more pretentious building.

At the age of seventeen, having until then employed his time in farming, Mr. Miller went to New York to begin life for himself. There he engaged in different kinds of employment, raising himself step by step from one position to another, and gradually accumulating a little capital. He came to Brooklyn in January, 1861, and two months later joined his father and uncle, R. & J. Miller, in their business of raising and moving houses. Under his management the business has had uninterrupted prosperity, having succeeded his father and uncle as sole proprietor in 1867. His son is now associated with him as partner.

Mr. Miller has been engaged in some large undertakings, both in this city and elsewhere. Noteworthy were the raising of blocks of houses on Flatbush avenue when the street grade was elevated twelve feet at Fifth avenue; also the moving of blocks of buildings when Fourth avenue was widened and graded. At Yonkers, N. Y., he was sent for to assist in widening several streets, and his services have been in request at Baltimore, Md., and other cities in a similar way. In the spring of 1883, the Bathing Pavilion at Brighton Beach, Coney Island, a building 450 feet long, three stories in height, and built on piles, had to be moved 200 feet back from the beach, on account of the encroachment which the tides had made upon it during a long and stormy winter. The surf was continually beating among the piles on which the structure rested, a constant menace to its stability and to the workmen who might be employed in removing it. Mr. Miller received the contract for the difficult undertaking in preference to all others, although his estimate of its cost was much higher than that of any competitor. His well-known skill and integrity were an assurance of success, impossible as the removal was pronounced to be by many who were even more experienced than he. The pavilion now stands on its new foundations, illustrating his ingenuity and daring enterprise.

In person, Mr. Miller is of commanding height, with a finely proportioned muscular frame. His blue eye is keen and frank like that of one who

"Looks the whole world in the face,
For he fears not any man."

His clear complexion denotes the man of perfect health, and, with his light-brown hair, bespeak his Saxon origin.

Like his parents, Mr. Miller is a member of the Society of Friends, and his life has been a fair exponent of the firmness of principle and uncompromising straightforwardness, which are the Quakers' characteristics. As is well known, this is the oldest temperance society in the world. Its principles have had no stronger advocate than Mr. Miller, who by voice and example has done continuous service for the

cause of reform. Possessing a character of firmness and fond of social enjoyment, the temptation has often been strong in him to join in the convivial intercourse which, as a man of the world, he has been often obliged to sustain. He has never swerved from the path of abstinence, however. In order to induce others to spare the wine, and to restore some years ago the Order of the Good Templars and has since held the highest positions within the society with honor and credit.

To the work of reforms he has brought the same enthusiasm and energy, which have distinguished all his undertakings, and he has always been a trusted counsellor of his fellow laborers.

In his twenty-third year, Mr. Miller married Miss Laura F. Marshall. Five children were born to them, of whom three are living.

Notwithstanding a press of business cares, Mr. Miller keeps himself well informed on the current events of the day. As a Republican he takes an active interest in political affairs, though never seeking office.

In short, Mr. Miller is one of the many self-made men of whom our country furnishes so many notable examples. His present position and acquirements are due entirely to his own efforts. His aptness and quickness have enabled him to cope successfully with difficulties, while his energy, courage and perseverance have given him the victory over all obstacles, and made him one of the prominent business men of the day.

CHESTER BEDELL was born near Morristown, N. J., August 6, 1814. His father and grandfather were both natives of Morristown. The latter, Isaac Bedell, served the American cause as a soldier during the Revolutionary struggle, receiving two serious wounds, one of which was so peculiar as to be of interest to the general reader. Mr. Bedell received a ball between the bones of his leg just below the knee. The wound was of such a nature that the missile could not be extracted, and it remained embedded in the sufferer's leg for fifty years, but gradually, though he was not aware of it, working down. One day a horse kicked Mr. Bedell's leg, just above the ankle, and, through an opening thus made in the flesh, the ball came out having traversed nearly the whole length of the leg below the knee. It was given by Mr. Bedell to his son, John K. Bedell, father of Chester Bedell, and by him to Chester Bedell, his eldest son, who, some years ago, deposited it, with its curious history, in the cornerstone of the Carroll Park Methodist-Episcopal Church, in Brooklyn.

John K. Bedell was a farmer and school teacher at Morristown, N. J. He married Anna Jones, who is living with her son, William J. Bedell, at Morristown, having reached the advanced age of eighty-nine in August, 1883. Her husband died at Morristown more than twenty years ago. Chester Bedell lived on his father's farm until he was about seventeen years old, when he was apprenticed to J. S. Frost, of Morristown, to learn the trade of stone-mason, painter and plasterer. He removed to Brooklyn in 1833, and was employed as a journeyman at his trade for about two years. In 1835, he began business on his own account as a builder, in which he has continued successfully to the present time, having erected about 1,500 buildings in Brooklyn and New York, and elsewhere, among them the Pearl street House, in New York, the Arcade Building, in Elizabeth, N. J., a large number of stores on Atlantic Dock, and some large buildings in Cambridge, S. C. His office is at 100 Nassau street, where he carries on a large and profitable business in connection with his building operations.



Edwin H. Burnett

In 1838, Mr. Bedell was married to Miss Amy S. North, a Long Island lady, who has borne him seven children, three of whom are dead. One son, William Forrest Bedell, M.D., of 265 Sackett street, and three daughters are living. Mr. Bedell and members of his family are identified with the Central Park Methodist Episcopal church, the house of worship of which was erected by Mr. Bedell, more than one-half the expense having been borne by him, and the balance by Mr. Henry DuBois and William J. Bedell, of Morristown, N. J., a farmer and former builder, who learned his trade in Brooklyn with his brother, Chester. In politics, Mr. Bedell, formerly a "Clay Whig," has long espoused the cause of the Republican party, though he is not, nor has he been active as a politician. He is, in the best sense of the term, a self-made man. His life has been a busy and a useful one. He is a gentleman of genial presence and agreeable manners, and many there are who are proud to call him friend. In all of the best interests of humanity he takes a lively interest, and his helpful charity has made itself practically manifest on many occasions when, in time of need, he has shown himself "a friend indeed." At the age of almost three-score and ten, he appears much younger, and preserves all of his mental and most of his physical vigor.

EDWIN H. BURNETT.—The family of Burnett in America is both an old and an honorable one. Thomas Burnett, of Lynn, Mass., is the earliest of the name from whom Edwin H. Burnett is able to trace his descent. He removed to Southampton, L. I., about 1643, and had sons named John, Aaron, Lot, Joel, Dan, Mordecai, and Matthias. Mordecai removed at an early date from Southampton, L. I., to Elizabethtown, New Jersey. He was the son of Thomas Burnett by his second wife, Mary Pierson, and was born while his father was yet a resident of Lynn, Mass., where he married her in 1663. It is thought that he became a resident of New Jersey about 1690, as subsequent to that date he soon became prominent in local affairs.

Dr. Ichabod Burnett, son of Dan, was born at Southampton, L. I., about 1684, and removed with his father to Elizabethtown, N. J., about 1690. He had two sons, William and Ichabod, both of whom became physicians. The latter died in his twenty-fourth year. Dr. William Burnett removed to Newark and distinguished himself as a patriot during the Revolution. He was the father of Judge Jacob Burnett of Cincinnati. Dr. Ichabod Burnett died at Elizabethtown, N. J., at the age of ninety, in 1774.



L. J. Wells

Edwin H. Burnett's father, John O. Burnett, and his mother, Julia Ann (Higgins) Burnett, were both natives of Lyons' Farms, N. J. They removed to Brooklyn not long after their marriage, where their son was born February 25th, 1829. He was educated partially in the public and partially in private schools in Brooklyn, and at the age of sixteen became a clerk in a grocery store; but having a taste for his father's trade, that of carpenter, he two years later devoted himself to its acquisition, studying architectural drawing at the old Apprentices' Library on Washington street. He passed some years in his father's service, and at the age of about twenty-five became his partner. A few years afterward his father retired, and Mr. Burnett has since been conducting an extensive and growing business, during the period of which he did the carpenter work for Dr. Squibb's residence and laboratory, on Columbia Heights, and was the architect and builder of the Nottingham Lace Works, at the corner of Hall street and Park avenue, besides erecting numerous fine residences and business structures of various kinds, his residence and shops being located at Nos. 58 and 60 Poplar street. Formerly an old line Whig, Mr. Burnett is now a Democrat, but not an active participant in political affairs. He is a member of the Dutch Reformed Church of Flatbush, L. I.

In 1851, he married Catharine H. McChesney, of Monmouth county, N. J., and has two daughters, named respectively, Virginia Lee, and Ella Stewart Burnett.

LINDSAY JAMES WELLS, the subject of this sketch, was born in Dublin, Ireland, December 22, 1822. His father, James Wells, was a native of England, and his mother, whose maiden name was Mary Holmes, was born in Scotland. Their family consisted of four sons and two daughters. Young Wells, having received a liberal academical education, entered the Royal Irish Academy, where he studied two years; and, having received the highest prize for architectural drawing (which drawing is still in his possession), he entered the office of Mr. James B. Farrell, an architect and civil engineer of high standing in Ireland, where he served a five years' apprenticeship. He then became assistant to Mr. James B. Farrell, a prominent civil engineer in the West of Ireland, who was engaged in improving Wexford Harbor and other large engineering works, remaining with him two years. He then decided to join his eldest brother, who had emigrated, believing that America would give a better field for the expansion of an active life than his native country. He therefore crossed the Atlantic and located in Brooklyn early in May, 1848. His professional ability was soon remarked, so that, in the following November he was selected the position of Civil Engineer to the Trustees of Central West cemetery, which he successfully filled for nearly thirty years, with honor to himself and satisfaction to the corporation. To his temporary duty largely are due the beautiful and now noble Central West cemetery grounds. His professional skill began to become

...on the grounds; his good taste, and enhancing its natural beauty, by the wonderful system of walks and drives, glades and lakes, that make Green-Wood a terrestrial paradise, a triumph of landscape engineering. Mr. Wells has shown the highest art to conceal art, so that difficulties have been overcome, obstacles removed, and natural advantages improved, to produce charming effects, yet without artificiality.

Aside from his busy professional career, Mr. Wells has also done much work in connection with benevolent and religious enterprises. He has been instrumental in founding four churches in Brooklyn, viz.: the First Place M. E. Church, the Warren Street M. E. Church, the Park Congregational Church, and the Church of the Covenant. He is now an active member of the Park Congregational. He was a charter member and is now a director and the treasurer of the "Prospect Heights Dispensary."

Mr. Wells married Miss Eleanor Bridges, of Brooklyn, May 25, 1852, and the issue of that marriage was two sons, James L. and Charles B., and two daughters, Mary Eleanor (Scott) and Emma L. After many years of domestic happiness, Mrs. Wells died, February 7, 1877. Mr. Wells again married, in 1883, Miss Susan H. Pierce, of Massachusetts.

A large circle of friends hold Mr. Wells in the highest esteem for his manliness and worth.

Real Estate Dealers and Agents.—It remains that we speak of the *real estate dealers and agents*, who have become so numerous as almost to form a distinct guild in our city. In the period of its village life, Brooklyn had no need of real estate agents. If a man built or bought a house which, for any cause, he desired to sell, the natural purchaser was either some neighbor or new-comer, who was desirous of buying, and the transaction was between man and man, without the intervention of a middle-man. If land was to be sold for building purposes, the seller was either a farmer who saw profit in disposing of a part of his farm, and who offered it at a price which, in most cases, speedily brought purchasers. In the very beginning of the present century there seems to have been but one man in the town of Brooklyn who engaged in what might be called a real estate business. This was John Jackson, who engineered the purchase of the site of the present United States Navy Yard, and who put up a number of small houses in its vicinity for workmen and persons of small means. Thirty years later, after the city organization in 1834, some enterprising men of wealth, and had earlier purchased considerable tracts for country seats, foreseeing dimly that Brooklyn was to be some day a great city, laid out streets through their estates and offered building lots for sale, generally under certain conditions or covenants. Among the earliest of these were Mr. HEZEKIAH B. PIERREPONT, whose services in building up and improving the city are elsewhere recorded in this work; the brothers, AUGUSTUS and JOSEPH G. GRHAM, JOSEPH SANDS, Major FANSHILL C. TUCKER and his son, R. SANDS TUCKER, JEREMIAH JOHNSON, several members of the POLHEMUS and RAPELYE families, Mr. PACKER, and later, Mr.

JOHN H. PRENTISS. [Some of the original holders of farms came reluctantly into this movement, which has brought large fortunes to their descendants. Among these were the Polhemus, Joralemon, Remsen, Lefferts, Johnson, Jackson and other families. These properties are now very thoroughly distributed, and among those most active in their distribution have been Gen. JEREMIAH JOHNSON, Jr., Hon. J. CARSON BREVOORT, who married into one of the Lefferts families, Mr. THEODORE POLHEMUS, and other parties connected by birth or marriage with these old families. Of course, this laying out of streets and offering of building lots for sale, or erecting buildings on them, were real estate transactions on a large scale; but the men who did this business were the owners of the lands they offered, and did not act in any respect as middle-men. A real estate dealer or agent to-day *may* own the buildings or lots he offers for sale; though, as a rule, he does not, but acts as agent for the owners. He may—and in the case of the flats or apartment houses, as we have explained, he often does—own the houses he offers to rent; but it is not necessary to his calling that he should own any of them. He does very often, if he has capital, or can command the capital of others, make building loans to builders and take mortgages on the buildings they are erecting as his security. But it is of the nature of his business that in most cases he should act, directly or indirectly, as the agent of others, and thus be a middle-man. We have been unable to ascertain who, in the sense we have defined, was the first real estate agent in Brooklyn. Whoever he was, he had his office probably either near Fulton Ferry, or in the young and growing village of the Wallabout, in the vicinity of the United States Navy Yard, and his or their business—for there may have been four or five engaged in the vocation—must have been limited within very narrow bounds.

In 1849, Mr. SYLVESTER HONDLow, a native of Montreal, and at that time forty-one years of age, removed to Brooklyn, and commenced business as a real estate agent. He was enterprising and honest. Very soon, probably in 1850, he removed his office to Montague street, and thenceforward transacted his business there until his death, in February, 1878. When he made this removal, Mr. H. B. Pierrepont—who, as we have seen, was himself one of the most enterprising and hopeful of the citizens of Brooklyn—said to him: "Mr. Hondlow, are you crazy? There certainly can never be any hope of building up a good real estate business so far from the center of business!" But Mr. Hondlow thought differently, and the events proved the soundness of his judgment. Within ten years Holy Trinity Church was finished, the Academy of Music was built; horse railroads were running in all directions—south, south-east, east, north-east and north; the new Court-house was projected, the great Atlantic and Erie basins were under way, churches and schools were erected



J. R. R. P.

in great numbers one, two, three and four miles to the east, and Brooklyn had more than doubled its population. Mr. Hondlow was in a position to take advantage of this rapid growth, and a full tide of fortune poured in upon him. Of course there were numerous competitors for this business. Among them were Mr. JELIUS DAVENPORT, MESSRS. D. & M. CHAUNCEY, and a little later, NICHOLAS COOPER, whose son, like Mr. Davenport's, is now associated with him; MARTIN BATES; Mr. H. MACOMBER, now deceased, whose son continues his business; REV. H. A. STAFFORD; WILLIAM MORGAN, now deceased, whose son continues his father's business; Mr. WILLIAM O. SUMNER; Mr. W. KNOWLTON, deceased, whose son continues the business, and many others. Later, others came into the business, some of them with large capital or indomitable enterprise, and these have generally succeeded, though many who have attempted the business with insufficient knowledge, influence or capital have failed. Among the most enterprising of the later men are Mr. LEONARD MOODY, whose biography is found elsewhere in these pages, Mr. JAMES C. EADIE, Mr. PAUL C. GRENING, the younger DAVENPORTS, MESSRS. MACOMBER & RICHARDSON, Mr. CHARLES W. KNOWLTON, MESSRS. CHARLES A. SEYMOUR & CO., WILLIAM MORGAN'S SON, WYCKOFF BROS., MESSRS. N. H. & H. T. FROST, T. W. SWENSON & SON, and a host of others. There are, as we have already said, three hundred and twenty-five real estate agents in the city. A considerable number of the most eminent of the real estate dealers are among the citizens whom Brooklyn has cause to honor, and whose portraits and biographies adorn our pages.

JACOB RAPELYE. Mr. James Riker, in his *Annals of New town*, says, with regard to the RAPELYE family, that "they seemed to have retained the characteristic gaiety, tact and intelligence of their French origin, combined with the good sense, economy and neatness of their Dutch progenitors." It is certain that this observation is strictly true as applied to the subject of our sketch, JACOB RAPELYE, who was born Sept. 19, 1788.

After having received such limited education as was afforded at that time by the country schools near his father's residence, in Newtown, Long Island, Jacob became a clerk in the city of New York at the age of sixteen, and, according to the custom of the time, was bound as an apprentice to serve his time as such. During the period of his clerkship, keenly sensible of the necessity of a better education, he applied himself closely to study, and endeavored to fit himself for higher walks in life. At the age of twenty-one, he was appointed to a desk in the United States Bank, but he found the position distasteful; and, upon the declaration of the war of 1812, he obtained, from Governor Daniel D. Tompkins, a commission as First Lieutenant of Artillery. Under it he did active duty with his fellow citizens in the defence of New York City. Upon the 12th of December, 1812, James Madison, President of the United States, appointed him First Lieutenant of the United States Volunteers. In this capacity, he served in New York City, at Sandy Hook, and upon the Canada line. He was Adjutant to General Izard; the general and recommended him to

be put to the trial of an arduous and hazardous duty, and was appointed Adjutant of the 1st Regiment of New York Volunteers.

Soon after the close of the war, Mr. Rapelye returned to Charleston, South Carolina, and entered into business there. In July, 1816, he was appointed Deputy Surveyor of the land of the State of South Carolina. On the 20th of September, 1818, he married Elizabeth, youngest daughter of Gilbert Van Mater. Mr. Van Mater lived some years in New Albany, on No. 11 Fulton street, Brooklyn, and lived a year from the incorporation of the city of New York. His family between that city and Brooklyn.

In 1819, Mr. Rapelye became a partner of a shipbuilding ship to which a brother of his cousin, Daniel, of New York, had also belonged. The firm, among other ships, captured the *Bennet*, and the firm earned a very extensive and successful business. During his residence in Charleston, Mr. Rapelye was placed, by the Government of the State, upon a committee appointed to inquire into the negro insurrection which was then in progress, and report upon its causes, extent, and purposes. The investigation and resulting formidable propositions, and according to a writer of the day, the entire people was never more thoroughly alarmed than were the people of Charleston. The committee's report stated that from six to nine thousand negroes were engaged in a plot to seize the arsenals, fire the city in several places, and make a universal massacre of the white inhabitants. The report, however, was shown up as such a fabric of lies, that it produced a powerful effect in ridding the continent of the plague which prevailed in Charleston.

About the year 1820, Mr. Rapelye returned to Brooklyn, and soon after entered into business with Mr. Charles Hoyt. He labored for the widening and improvement of Atlantic avenue, and for the establishment of the ferry from the foot of that avenue to New York. In 1837, he contrived a machine, which was intended for sweeping the streets of New York. Upon its trial, he was glad to escape under cover of the dust raised by his own machine, from the hands of an infuriated mob, who, believing that its use would take the bread out of their mouths, destroyed it. Afterwards, in connection with Mr. Cornelius J. Bergen and Alexander Bergen, Mr. Rapelye took an active part in the opening and improvement of that part of South Brooklyn which is in the neighborhood of Carroll Park. In 1853, he purchased a farm of 96 acres in Newtown, L. I., and gave it the name of Laurel Hill; he erected a house and resided in it until his death, which occurred August 21, 1867, in the 79th year of his age. He left surviving him a widow, five daughters and two sons. Of the latter, the eldest, Gilbert Van Mater Rapelye, is a resident of Staatsburg, Dutchess county, and the youngest, Augustus Rapelye, residing in New York.

While Mr. Rapelye displayed great energy, and a bold and enterprising spirit in all his business operations, he had much refinement of taste and fondness for simple pleasures; his sense of humor was keen, his repartee was quick, and he loved mirth and drollery. His kindly disposition made him charitable and benevolent, and he was noted for his social qualities and hospitality. Very kind, good and devoted father, he is endeared to the memory of his children. As a church member, he did much to promote the building of the Tabernacle and the Free Will Society and Methodist churches of this city; his religious views were, nevertheless, broad and liberal.

His wife, Mary, was born in the year 1790, and died in the year 1860, and was buried in the same place as her husband. She was the daughter of Mr. John and Mrs. Mary Van Mater, and was the wife of Mr. Rapelye. She died on Jan. 10th, 1860.

the mast, he returned to East Pittston, and then to his possession. In 1861, he went to Virginia to deal in white oak timber, for and, after remaining there two years in pursuit of his business, he once more repaired to Maine, on the Penobscot river, near Canada, and stayed there until the first call for volunteers for the defense of the Union, when he hurried to Fortress Monroe.

After McClellan made his famous retreat, Mr. Moody helped to raise the 21st Maine Regiment, and with them came to New York on the way to the front. He was discharged

Subsequently, he met Miss Marianna Henrietta Quantin, a lady of French descent, the daughter of Henri Quantin, an importer of French commodities, and was united in marriage with her, in New York city, in 1864. He visited his native State on his bridal tour, and concluded to settle there on his farm. In January, 1869, desiring a larger field of action, he returned to New York, and, seeing that Brooklyn was to be the great place in the future, he engaged in the real estate business, opening an office in Flatbush avenue.

After years of toil and attention to business, he is now able to stand as the most successful real estate operator in the city, leasing houses to over one thousand of the citizens of Brooklyn. Under his supervision was built the largest apartment house in the city, called "The Fougere," which brings in an annual rental of over \$60,000.

Mr. Moody also selected the site for the Federal Building, in Brooklyn, which has been accepted by the commissioners appointed by the United States government.

Although refusing to accept any gift of a political character from his adopted city, he is known as a power in the Republican party, and takes an active part in political councils and in the performance of his duty as a citizen.

JAMES C. EADIE.—A distinctive feature of Brooklyn, and one of which her citizens are justly proud, is the high character, as a rule, of the men who constitute her business circles. No city is richer in men of education, save Boston, perhaps, and none, without exception, numbers more business men of refinement, social standing and character. No city can show a more happy union of employment and culture, or a larger proportion of men who are "fervent in business" and at the same time, social and refined, cultivating the amenities of life. An excellent representative of the Brooklyn men of affairs and of society is he whose name heads this sketch. No gentleman is a better man of business, and no business-man is a more thorough gentleman in all his relations; and as such, no man is more widely or favorably known in his section of the city than he.

Mr. Eadie is a native of Scotland, born in Hogganfield Cottage, near Glasgow, in the year 1841. He comes of good ancestry, and those of his family still residing in Glasgow and its vicinity, occupy high positions in social circles. His father was a man of ability, by trade a bleacher, the old bleachery being still in existence; but he died when his son was five months old. The latter received his education in the Collegiate School of Glasgow, and on arriving at a suitable

metropolis drew him, as it has drawn so many other young men, and there he sought a beginning for his life-work, which was then an uncertain, untried experiment. His first situation was with Samuel Sneden, a ship-builder, at Greenpoint; a year later, he went into the tobacco brokerage business, for a time, and did well. Foreseeing that the rapid growth of Brooklyn made it a desirable field for the real estate business, he opened an office at 43 Broadway, E. D., in 1869.

As yet unacquainted with the details of the business, much spirit, determination and energy were requisite to enable him to gain a foot-hold. But these essential qualities he had in large measure, united with a kindly manner which would not permit him to treat anyone except with courtesy; in consequence, he soon became known and liked, prospering in a financial way, and held in yet greater esteem for his many good qualities. In 1873, his office was removed to 45 Broadway, which has since become as well known a location as any in the city. It is elegantly and tastefully fitted up, and is the scene not only of large real estate transactions but also of many pleasant reunions of the Burns Association, and of other social gatherings at which Mr. Eadie has entertained his friends. Among these guests have been several Mayors of the city; William Cullen Bryant, Bayard Taylor, John G. Saxe, and other literary men; Rev. Henry Ward Beecher, and other eminent divines; the foremost in the professions; notable people from abroad, as well as local celebrities. Mr. Eadie also has a large number of letters of friendship from distinguished men in Great Britain and America, very interesting in themselves and in the associations connected with them.

Mr. Eadie has always been loyal to the land of his birth. Years ago he was a prime mover in organizing the "Burns Association," at first an organization for the purpose of caring for worthy and needy Scotchmen in this city, and helping them to employment, as well as with the object of preserving the traditions and national honor of "Auld Scotia." It is still most flourishing, under the presidency of Mr. Eadie, who has occupied that office for twenty years, and annually celebrates the birthday of Robert Burns, with a "feast of reason (and of the old Scottish dishes) and a flow of soul." Mr. Eadie was also one of the originators of the Empire Club, so well known in the eastern part of the city. He was likewise one of the foremost in organizing, and the first and only Treasurer of the Long Island Life Saving Association, whose beneficent work is mentioned elsewhere.

Mr. Eadie has often visited his old home on the other side, so that he is welcomed there by numbers of relatives and friends who are among the best people. His departure on such an excursion in June, 1873, was made the occasion of a farewell dinner, given in his honor by some two hundred of his friends, which was a brilliant gathering. They, with the 47th Regiment full band, also accompanied him down the New York Bay, in the steamer *Geo. Fletcher*, to wish him *bon voyage*. This incident, unexpected and unsolicited, an honor not before bestowed on a private citizen, testifies to the esteem and regard in which Mr. Eadie is held in the community. He owes none of this kindly feeling to political or interested motives, inasmuch as he has never cared to take an active interest in politics, beyond depositing his ballot in behalf of good government, but it is a spontaneous tribute to manly worth. Like all good citizens, he favors the cause of education. Possessing a fine literary taste, he has accumulated a choice collection of the best books; and is also a liberal patron of art, music and the drama. Occasional *conversaziones* at his parlors are musical and literary treats, which his friends are delighted to attend.



James E. Burke



1875



Henry T. Sherman

In person, Mr. Eadie is tall and well built, with features of the Scottish type, as his portrait here. In his life would be incomplete without mention of Mr. Eadie's business ability, his shrewdness and farsightedness, which have been a source of great practical benefit not only to himself, but to the Eastern District, in investing and inducing others to invest in real estate; and has built up that section of the city, drawing population and thus adding to the material wealth and prosperity.

Says an intimate friend, Rev. Newton Maynard, D. D.: "I do not know a more upright and honorable, a more kind-hearted man, or a more polished gentleman of the old school, than Mr. Eadie. He is universally liked here and looked up to as a friend by all. Though not a church member, he contributes liberally of time and means to help church work, in which his practical aid is of much advantage. When any worthy organization is to be started or helped, no one is more public-spirited than he to assist, and no one so ready to entertain friends or public guests. He is the very prince of hosts. Mr. Eadie is modest and unassuming without thinking of himself more highly than he ought, but prefers to let his acts speak rather than his own words. He exerts a strong influence for good here, not only in the way of business, but also socially; always on the side of religion, good morals and refinement."

WILLIAM O. SUMNER a successful and prominent public man in Brooklyn business circles, whose real estate office is at No. 68 Broadway, was born in the town of Stockbridge, Madison county, N. Y., in 1843. Mr. Sumner's father, after whom he was named, was a native of Gilead, Tolland county, Conn., son of Rev. Henry P. Sumner, one of the Sumners of Massachusetts. When a young man he removed to Stockbridge, N. Y., where he married Adaline C., daughter of John H. Warren of that town, who, with his son, Wm. O., and two daughters, survive him. Mr. S. was one of the influential men of the town. As a citizen he was generous and public-spirited. He was a man of extensive reading, and on local history was regarded as an authority. In political affairs he took a deep and intelligent interest; he was no office-seeker, although for several years Postmaster at Munnsville. He died at Munnsville, in his adopted State, in July, 1883, at the age of 39.

Young Mr. Sumner, the subject of this sketch, having received his education in the schools of Madison county, engaged in the book trade for a time, but in 1867 removed to Brooklyn. For about two years he was in the mercantile business, and then opened a real estate and insurance office on Broadway, near 4th street. His good character made friends, and his manner of dealing rapidly built up a large business, which assumed such dimensions after a few years that he was compelled to give up the insurance department, and his branch office in New York, and confine his attention to real estate and investments exclusively. He published the first Real Estate Journal in the Eastern District.

Mr. Sumner has become one of the best known men in the city. He is a member of the New York Board of Trade, also of the Long Island Historical Society, the Williamsburgh Benevolent Society, the Brooklyn Civil Service Reform Association; A director of the Brooklyn Library, The Eastern District Hospital and Dispensary, and formerly of the Dime Savings Bank. A gentleman of literary tastes and habits, Mr. Sumner is prominently connected with the leading literary and musical societies. His church relations are with Plymouth Church. Though not an office-holder or office-seeker, he is a politician in the best sense; believing it to be every man's duty to promote the public welfare. He is a Democrat of the inde-

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Newton Cooper was born in England in 1650 in an ancient farm house, on the old turnpike, leading from old Huddersfield to Halifax, which was then doing its utmost for the improvement of Prospect Park, with large trees, some of which it stood now being included within the borders of the former pleasure ground. Here he was reared, working on the farm of his ancestors, but soon before his grandfather's generation. Richard Cooper, his father, lived and died in Halifax. His mother, a daughter of John Wain, one of the earliest settlers of New Utrecht, was born in the old house which is now the parsonage of the old Dutch Church of New Utrecht.

Of course the collection of, and buying of, money by men, while pursued by you, is perfectly lawful according to him. At the first station he attempted to buy for three years to learn a trade, at which time he was told a year after having served his time, and then he went to the City Hall (then in course of erection), a store, which was the same extensively known as the N. Chicago Commission and toy shop at that time. His first sale was of some small stamps for two cents. He continued the business for 10 years, his few closing sales aggregating many thousand dollars.

Having disposed of his business, Mr. Chapman returned to retire from active life; but he soon found time passing heavily on his hands, that he could not afford to do so. Having seen Brooklyn grow from City Hall eastward, and knowing the value of real property, he felt confident of success, which he has since realized. He has since had a magnificent view of the city and harbor, its general appearance. At this time he was conscious of the insufficiency of the old style many-paned window, and in 1840, he was the first to introduce the plate-glass front, which rendered his house an object of interest to all visitors. He has since put in many of them, and has been one of those foremost in the improvements in the business portions of the city. In view of the beauty of Flatbush and its desirability as a suburban residence, he early determined to open that avenue for building purposes. Negotiating for large farms, he opened streets through them and made other improvements, which resulted in numerous and advantageous sales of lots, and the building of many of the most attractive portions of Brooklyn. The first street, the only paved street in that locality, was laid out and completed by Mr. Chapman in 1846, forming the Flatbush Avenue, which extends from the city to the county buildings.

Several marketing decisions are possible. One, for example, is a pricing policy. One may choose to price this wine as a prestige bottle. Another, just as important, is how to handle the wine cellar. One may choose to keep the wine in the cellar or to bottle it. The Cellar of the Great Wall Hotel has been chosen to bottle the wine.



Julius Davenport

JULIUS DAVENPORT. The branch of the Davenport family in America, to which the subject of this sketch belongs, traces its descent in an unbroken line from Ormus de Dauneporte, who was born in England in 1086, and who assumed the local name of Dauneporte or Devonport, a sequestered township in the Hundred of Northwich, county of Chester. The family in England included many who were eminent in their time as clergymen, members of parliament, sheriffs and mayors. Prominent among the clergy was Rev. John Davenport, born in Coventry in 1597, educated at Oxford, who preached with great acceptance in London, but by the persecution of Archbishop Laud was driven with the Puritans to America in 1637. He was one of the little band that founded the colony of New Haven in 1638, and was its first pastor. His influence in Connecticut is largely indebted for her common schools and colleges. His energy, probity, devotion to duty and religious zeal have been inherited by his descendants, and have enabled the members of the Davenport family to take the commanding position which they have enjoyed in the communities where they have resided.

Mr. Julius Davenport, whose portrait is given herewith, is the son of William and Abigail Davenport, and was born in New Canaan, Ct., May 26th, 1821. His father, born in 1781, lived in New Canaan and in Brooklyn, and died June 19, 1860, in his 79th year, widely honored and revered. Mr. Davenport was educated in the common schools of his native place, and at the New Canaan Academy, under Prof. Thacher, of Yale. At the age of

seventeen he began life for himself by engaging in teaching school. He taught five years in Connecticut and then removed to Brooklyn, where for ten years he was Principal of a private school.

On the fourth of June, 1846, he married Miss Mary A. Bates, of New York, and their family consists of two sons and one daughter.

At the close of his engagement as Principal, Mr. Davenport entered the real estate and insurance business on Fulton street, corner of Oxford; and from small beginnings, by his energy and industry, he has built up a large and prosperous business.

In 1859, when that portion of the city contained many vacant lots, he erected the handsome building which he now occupies, on the north-east corner of Fulton and Oxford streets. Among business men, Mr. Davenport is everywhere known and esteemed for his sagacity, enterprise and uprightness. He has been connected with the Clinton Avenue Congregational Church for over 30 years, and has filled the office of Deacon. He is known as a public-spirited citizen and as a warm friend and liberal supporter of educational, charitable and religious institutions.

Among the best known Real Estate Brokers, we may mention the following:

- George L. Ayers.....109 Flatbush avenue.
Real estate; established 1867.
- Thomas C. Abbott.....Coney Island.
- V. B. W. Bennett.....525 Fifth avenue.
- Daniel Bradley.....92 Bridge street.
- A. P. Bailey.....11 Sands street.
- C. C. Bradley.....203 Montague street.
- J. Burrill.....289 Ninth street.
- L. E. Brown.....126 Herkimer street.
- L. O. Brown (Brown Bros.).....40 Fifth avenue and 118 1/2
Fulton street.

Real estate, insurance and building; established 1878;
succeeded his father in building business in 1882.

- Martin Breen.....236 Baltic street.
- L. Blumenau.....161 Smith street.
- W. H. Barker.....189 Montague street.
- E. D. Bushnell... ..207 Berkeley place.
- I. H. Carry, Jr.....196 Fulton street.
- Samuel D. Clark.....113 Franklin street.
- F. W. Carruthers.....1357 Fulton street.
- G. S. Carpenter.....1273 Fulton street.
- Ralph L. Cook.....810 Fulton street.

Real estate broker; established 1868, under the firm
name of Candee & Cook, Mr. Cook succeeding to the busi-
ness in 1878, at the death of Mr. Candee.

- Stephen Clark.....278 Manhattan avenue.
- C. W. C. Dreher.....Wyckoff avenue, near Ful-
ton avenue, E. N. Y.

Real estate and insurance; commenced business in the
Post Office building, removing to the above address in
1872; founder of a German weekly newspaper, the *East
New York Laterne*; member of the Board of Education.

- A. B. Davenport.....367 Fulton street.
- Julius Davenport.....Oxford and Fulton streets.
(See Biography, page 862.)
- E. P. Day.....55th street and Third avenue.
- J. H. Doherty.....280 Flatbush avenue.
- J. V. Dorland.....Broadway and 4th street.
- George Damen.....88 Luqueer street.
- James C. Eadie.....45 Broadway, E. D.
- Norris Evans & Son.....391 Bedford avenue.
- Norris Evans.....449 Bedford avenue.

Real estate; born 1824, Brooklyn; established 1877, 391
Bedford avenue.

- Edward Egolf.....123 11th street.

Real estate; established 1873, at 13 Willoughby street;
was Supervisor of the 22d Ward from 1877 to 1881.

- Jos. J. Eiseman.....Bushwick ave. and Grand st.
- Ernest J. Eiseman.....527 Grand street.
- Clarence C. Fleet.....Bushwick ave. and Grand st.
- H. T. Frost.....302 Henry street.
- Paul C. Grening.....363 Fulton street.
- Wm. Gubbins.....20 Seventh avenue.
- E. Grening.....1161 Fulton avenue.
- John J. Hardy.....788 Third avenue.
- Henry Hauselman.....106 Graham avenue.

- James P. Hall & Son.....319 Franklin avenue.

Real estate and insurance, established 1867, at 100
Fulton street, removed to 319 Franklin avenue, then to 319
Montague street, and to the present address of Hall &
Son, Mr. Hall assuming the firm in 1897, when he
remained the sole proprietor.

- Edward T. Hall.....175 Montague street.
- J. M. Hillbryth.....15 Fulton avenue.
- H. Herschman.....100 Graham avenue.
- Andrew Harrison.....110 De Kalb avenue.
- John F. James.....100 Montague street.

Real estate, established 1866, at 100 Fulton street, in
1871, formed a partnership with Wyckoff & Feltz, at 100
Montague street, Mr. Feltz retiring from the firm here-
after, when the firm became Wyckoff & James, in 1874.
Mr. James became sole proprietor, removing to his
present location.

- Harry O. Jones.....171 Schermerhorn street.
- Ira A. Kimball.....346 9th street.

Real estate; established 1867.

- E. C. Litchfield.....Ninth avenue and 3d street.
- H. S. Linschell.....20 9th street.
- E. B. Litchfield.....180 Congress street.
- D. W. LaFetra.....219 Montague street.
- B. T. Lynch.....16 Court street.
- Miller & Molloy.....East New York.
- Charles R. Maser.....17 Willoughby street.
- Richard Marx.....16 Court street.
- Wm. Mackey.....456 Fulton street.
- John B. Morgan.....85 Broadway, E. D.
- George Powers.....540 State street.
- George W. Palmer.....New Lots.
- Francis P. Pike.....167 Stirling place.
- George H. Pendleton.....316 Cumberland street.
- Henry A. Phillips.....843 Willoughby avenue.
- Noyes G. Palmer.....East New York.
- Francis E. Rogers.....480 Grand street.
- Wm. Stevenson.....196 Fulton street.
- Wm. O. Sumner.....120 Broadway, E. D.
- Theodore Swimm.....394 Gates avenue.
- Wm. Taylor.....65 Cambridge place.
- John Thompson.....712 DeKalb avenue.
- E. W. Van Voorhees (N. Y.).....129 East 36th street.
- E. H. Winchester.....82 11th street.

Among the best known Real Estate and Insurance
Agents, we may mention the following:

- David E. Austin.....Now in New York.
- Charles A. Bryan.....349 Atlantic avenue.
- H. Balthazard.....Montague street.
- Wm. M. Cole.....20 Nassau street.
- W. L. Candee.....13 Park Row, N. Y.
- Stephen Crowell.....195 Broadway, N. Y.
- Geo. W. Chauncey.....207 Montague street.
- A. H. Creah.....204 Kensington street.
- Jas. J. Darling.....155 Broadway, N. Y.
- Charles Druse.....104 Montague street.
- Edmund Drugg.....78 West Broadway.

County, D.D., New York.

Chas. H. Dutcher.... Court st. cor. Montague st.
S. K. Fessenden.....204 Montague street.
Daniel F. Fernald.....26 Court street.
Samuel Grierson....10 Clark street.
Alfred Hedges.....5 Bedford avenue.
John C. Jacobs.....181 Montague street.
Benj. Lewis.....181 Montague street.

John K. Oakley....217 Montague street.
Willoughby Powell.....376 3d street.
J. A. S. Simonson.....201 Montague street.
Jno. S. Saal.....151 Leonard avenue.
A. B. Thorn.....202 Montague street.
C. A. Townsend.....137 Remsen street.
E. B. Vanderveer.....Flatbush.

CHESTER D. BURROWS, JR.

CHESTER D. BURROWS, Jr., is a son of Chester D. Burrows, once a prominent mason and builder of New York city. He was born in New York, January 1st, 1843, and removed to Williamsburg with his father's family in 1856, and was educated in the public schools of Brooklyn.

In 1860, Mr. Burrows began his business career as salesman in a grocery store in Williamsburg. He was then only seventeen years of age, but developed an aptitude for the trade which was remarkable in one so young. Two years later, at the age of nineteen, he engaged in business on his own account, opening a grocery store and embarking in a trade which must have proved successful had he not been so seriously ill at the end of six months that he was obliged to abandon it.

Soon after his recovery, Mr. Burrows engaged with Henry Wood & Son, pork packers, of Jersey city, as a clerk, and was in their employ two years and a half. Returning to Williamsburg he was connected with the firm of Oakley & Co., also in the pork trade, until 1869, and in August of that year he opened a pork packing establishment on his own account at the corner of Tenth and North First streets, Brooklyn, E. D. In October, 1874, he removed to the corner of Maujer and Leonard streets, where he had just erected the large building which he has since occupied.

Mr. Burrows began business with little means and largely upon borrowed capital, a hazardous undertaking always, but one in which his more than common business ability rendered him even more than ordinarily successful, and at this time his trade is one of the heaviest in his line in Brooklyn. An account of his early struggles and ultimate success would, if presented in detail, be of much interest to the general reader and serve as an encouragement to young men just embarking upon a business career, but such an account is not within the scope of a sketch like this. Wherever Mr. Burrows is known in the world of commerce his name is honored and his integrity unquestioned. He is a member of the New York Produce Exchange and of the Maritime Exchange, and at different times has been more or less prominently identified with various interests and institutions public in their character.

Mr. Burrows is a republican and an interested though not active politician. He is a member of the First Reformed Church of Brooklyn, of which Rev. E. S. Porter, D.D., is pastor, and has been superintendent of the Sunday school and Mission school connected therewith. He is a Freemason of fifteen years' standing, and a member of Oltnan Lodge, F. & A. M., No. 405. He was married November 6th, 1867, to Emily P., daughter of Schuyler C. Phillips, of Brooklyn.



Charles F. Burroughs

THE

Submitted by Mr. LEONARD MOODY, and accepted by CHARLES J. FOLGER, Secretary of the Treasury.

WHEN it was found that the Dutch Church site was not acceptable to the Federal Building, on March 1st, 1891, Mr. Moody, who had been secured for the property, Mr. Leonard Moody, on January 31st, 1891, went to Washington and submitted to Secretary Folger a new site on Washington and Johnson streets. At that time there were nine sites being pressed upon the Secretary for selection; large political influence was brought to bear upon him to select the Dutch Church site, and also the one at the corner of Fulton and Flatbush avenues, both of which were considered undesirable. After fourteen days of hard labor, Mr. Moody succeeded in securing the adoption of the Johnson street site, as will be seen by the following letter:

TREASURY DEPARTMENT,
 OFFICE OF THE SECRETARY,
 WASHINGTON, D. C., FEB. 12, 1934.

TO LEONARD MOODY,

Red Envs: $A \rightarrow B \rightarrow N \rightarrow Y$

Sir,—I have decided to select as a site for the public building to be erected in your city, the property offered by you, at four hundred and fifty thousand dollars (\$450,000), consisting of one hundred and ninety-seven (197) feet on Washington street, two hundred and thirty-five (235) feet on Johnson street, and one hundred and ninety-seven (197) feet on Adams street. In approving this location it is upon the unqualified condition that the Government shall receive a clear and perfect title to the property described, at a price not to exceed in any event the amount named above.

Very respectfully yours,

CHAS. J. FOLGER

Now that the Federal building controversy is at an end, and the location is as much a certainty as anything can be in a world of uncertainties, the story of a project which has given rise to untold bitterness and exasperation will be read with interest. It might make the record more complete to trace back the enterprise to the days of the Commission, but the leading facts concerning it are still fresh enough in the public mind to make repetition rather dreary. The point at which the project became really interesting, and began to arouse many animosities, was reached when the Secretary of the Treasury found himself confronted with a problem very difficult of solution. None of the sites recommended by the Commission came within his financial reach, and the iron-clad phraseology of the law left him no discretion. Secretary Folger was incorruptible, sensitive and well-meaning. He has never been able to straighten out the literal and stereotyped twist which many years upon the Bench gives to the most elastic minds, and he saw nothing in his interpretation of the act but absolute obedience to its letter. Where other men might have detected between the lines a spirit perhaps less arbitrary than the actual reading, he could see nothing but words rigid and precise, and the possibility of impeachment in the presence of any attempt to stretch them. He faced the situation as any lawyer would, threw out of court the Commissioners' recommendations, and looked about him for a site which would, in

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... Mr. Liebmann, the real estate man, pointed out the benefits certain to accrue in the event of ... to buy the site and hand it over to Mr. Moody for ... no matter at what cost to himself. Mr. Liebmann asked for a day to think it over. On the following morning he announced that he would go ahead. There were eighteen owners to deal with, and the great point was to keep every one of them in ignorance of the real reason for purchasing their ... every man who was approached was told that Mr. Liebmann simply had some improvements of his own in contemplation. At any moment the secret might leak out, and every hour might be worth a thousand dollars. There was no time for dickerings, and yet it would not do to seem to be over anxious. People are hard to deal with under such conditions, and most of them had a weakness for consulting lawyers. With the best manipulation, Federal Building suspicions could not be averted, but there could be no turning back when once the start was made. Some incidents which would bear elaboration made the matter lively. At the closing stages the work became more difficult. The friends of one of the owners secured some reliable information, and Moody knew it would be communicated without delay and send up the price without ceremony. He jumped into a carriage and told the driver not to spare his horse. It was the telephone and a horse in competition, however, and the animal was left very far behind, the superiority of the telephone costing Mr. Liebmann an additional three thousand dollars. In six days the dry goods man and the real estate dealer hurried nervous women and grasping men into bargains good for the seller and better for the buyer, and involving an expenditure of \$465,000. This is \$15,000 in excess of the price the Government will pay, so that Uncle Sam has nothing to complain about. It was an excellently managed affair, in which the courage and judgment of Mr. Liebmann came as prominently to the front as the activity and business capacity of the real estate man. The facts are, that the Secretary wanted a site and was willing to pay \$450,000, and that Mr. Moody displayed his ability to accommodate him, when the talk of other men ended in the intangible. The Government would have had a fine time of it making such a purchase. Mr. Moody was animated by the prospects of a commission, and Liebmann by the certainty of a rise in the price of his property. It needed just such incentives as these to render possible the consummation of such a well-devised business enterprise.

Nothing is more natural than that the Inspector and other officials should have wished to be identified with a matter of so much importance in their own district, and it could not have been otherwise than galling to them to be in ignorance of what was going on, when others claimed to know all about it. The fact is, that they hadn't the remotest idea of what was in the air.

There is not very much more to be told. It is officially declared that the matter is closed, so that, of course, it is settled now to all intents and purposes. It was not an agreeable thing to bring rival real estate men here when they hadn't a ghost of a chance, or to permit delegations to flood the Treasury Building with useless arguments, but there was no alternative—to be secret was to be successful. The affair has a comic side, thanks to the opposition parties and the Dutch Church people. The latter slept as peacefully as children while the real work was being done, but when the battle had been lost and won, though they didn't know it, they became delightfully energetic and industrious. The trouble with the Dutch Church people was that they thought they held the key to the situation, and could afford to display a good deal of indifference. As for the gallant captain, he was the most famous man in Washington. He can in-

dozen major-generals. He was going to see about this thing. He wouldn't have it. He would have the matter thoroughly investigated and generally shown up. He would not tolerate it if he knew himself. Some things he might possibly stand, but this never! So it went on, Mr. Grace taking his revenge in twenty-page communications, remarkable for nothing but very much bad temper and very little style. It is a fact that but for Liebmann's bold operations and Moody's remarkable adroitness the Federal Building enterprise would have dragged drearily through indefinite years, and the people of the city generally are well satisfied with the choice.

The selection of this site excited the opposition to such an extent that they demanded a Congressional investigation. The history of this is given in the following speech by Hon. Darwin R. James:

"Mr. Speaker,—The question of the selection of a site for a public building at Brooklyn has occupied the attention of this House to some extent this session, because of charges of collusion between the sellers of certain pieces of real estate and the officers of the Government, whereby an exorbitant price was to be paid for an undesirable piece of property. These charges were made in writing, were general in character, and were not made by residents of Brooklyn, but originated in this city and were worked up in the lobby of this House. They were never entitled to the consideration which they received—in fact, were not entitled to any consideration whatever, and, in my judgment, never would have received any except that a reputable daily paper or two, notably the *New York Journal of Commerce*, thinking there must be some truth in the reiterated charges, called upon Congress in a leading editorial to investigate. This editorial was sent to members of the House, and resulted in the drafting of a resolution providing for an investigation. These charges were all traceable to this city, where there seemed to be a headquarters from which scurrilous articles were sent to journals in New York, charging collusion and fraud, and in several instances mentioning the names of Congressmen who were said to be aiders and abettors of the thieves. These charges were outrageous and slanderous in character, and were put forth by selfish and disappointed persons for selfish ends, and the names of upright and honorable men were held up to the gaze of the public as those of thieves and rogues. Not only were corruption and collusion charged in these newspaper articles, but other articles of a different character got into the journals, giving a political turn to the matter, so that the 'fraud' in the purchase of the site for the public building at Brooklyn became a matter of national political importance. It affords a remarkable illustration of what a few unscrupulous persons can accomplish when they diligently set themselves about it. Having access to certain public journals, they use them to traduce honorable men, creating a public sentiment against them and the work in which they are engaged, and they even force upon this House of Representatives an investigation of a Government transaction which was absolutely honest, and entered upon after deliberate and careful consideration. In my remarks upon this floor on April 18th when the question of an appointment of a committee to investigate was under consideration, I said, 'So far as the purchase of the site for the public building at Brooklyn is concerned, I have no reason to doubt that every transaction in connection with it has been upright and honest.' To show that my words were founded on reason, I quote from the report of the Committee on Public Buildings and Grounds, as published in the *Record*, on page 5376: 'Every opportunity was offered for the introduction of evidence to sustain the charges, and we unhesitatingly report that there has not been introduced before us a scintilla of evidence which in the slightest degree reflects upon the integrity of the Secretary of the Treasury, upon the supervising architect, or any other officer of the Government. We therefore recommend the passage of the following:

'Resolved, That the charges of corrupt or collusive action on



Leonard Hardy

This finding of the committee disposes of the charge of collusion and fraud. It was a charge which never should have been made, for which there never was an occasion, but which, having been made, should never have been considered, because it was not made by responsible parties. The matter of the desirability of the site, and the price agreed to be paid for the same, are subjects which are not reported upon by the committee, although evidence was taken under these heads, for the reason that the resolution under which the committee acted did not require it. The House, therefore, on June 5, recommitting the report, with instructions to investigate these matters, and especially the purchase of the plot from William A. Husted. As to the desirability of the site selected, there is, of course, a diversity of opinion. Both at the first and second hearings before the committee, abundant evidence was forthcoming for and against the choice. Some of the most conscientious and careful citizens testified on either side of the question. My own choice was for the selection of some other site. The other members of the House from Brooklyn preferred another site, the one known as the Dutch Church site. Secretary Folger preferred the Boerum place site, which he himself looked at. The Commissioners appointed by the honorable Secretary selected as their choice the corner of Washington street and Myrtle avenue; the citizens who gave consideration to the subject generally accepted the decision of the Commission, although there were many who were locally prejudiced in favor of other sites. The mass of the people, as well as the Brooklyn Congressmen, agreed that the building should be near the City Hall. The question of a suitable place for the Federal Building was under consideration as early as 1868, when a commission was appointed to select one. For about sixteen years this matter has been more or less under discussion. Sites which were offered to the Commission at that time—desirable sites fronting on the City Hall square—have in several cases been built upon with substantial edifices, and have long been out of the market. There were left, however, three sites which could be purchased, or procured by condemnation, any one of which would have been acceptable to a large number of people. The Dutch Church property could have been purchased for two hundred and seventy-five thousand dollars. This, with the Court street front, would have furnished a site which would have satisfied many; but the Court street front could not have been purchased at less than three hundred and fifty thousand dollars, if it could have been purchased at any price. It might have been condemned, but it is doubtful if it could thereby have been acquired at a lower price. The Secretary construed the law literally, holding that he could only acquire the property through purchase. I consider that the price of this site was \$625,000. The Boerum place site, preferred by the Secretary and recommended by Supervising Architect Hill, in all probability would have cost over \$800,000. It contained several plots which the owners did not offer and did not wish to sell at any price. On this plot is the Long Island Savings Bank building, for which \$140,000 is demanded. The other site alluded to is the one at the corner of Washington and Myrtle avenue, the one selected by the Commission. This site could have been purchased at \$600,000 at the time the Commission selected it, as the parties advocating its selection had options for nearly all the plots, the figures aggregating about \$600,000. At this present time it is doubtful if the property could be purchased at even \$850,000. It will thus be seen that the Secretary was shut up to two courses: Either to do nothing, or to accept a site not so desirable as those mentioned, as the cost of any one of them would have consumed the larger part of the appropriation for site and building. The Secretary decided to wait, but the citizens of Brooklyn were urging

Mr. Moody secured the assistance of Mr. Henry Liebmann, a partner in one of the most reputable business concerns in the city. Mr. Moody was not strong enough financially to undertake the purchase of the lots himself, but his brothers, who occupy a large retail store running through from Fulton to Washington street, and own about half of the block, the southerly half of which was offered to the Government. It will be seen that, if the sale could be effected, the adjoining property of the Liebmanns would be greatly benefited. It was for this reason that they consented to purchase the lots, some thirteen in number, and turn them over to Moody. Mr. I proceeded quietly to buy, the sellers knowing not the purpose for which he was buying; but, before all the lots had been taken, and had been gotten rid of, it got into the public mind that the property was being acquired for the Government, and, as a result, the prices rapidly advanced. As the Government was not prepared to pay more than the original price, the sale was abandoned.

...being subjected to the same treatment as a thief and a scoundrel."

The Hon. Secretary of the Board of the Investigating Committee, however, has the honor to say, in reply, and continued:

"I have no question but that, had it been known that the purchase was being made for the Government, the cost would have reached six hundred thousand dollars. One lot, 22x100 feet on Washington street, was purchased by Mr. Liebmann from a Mrs. Titus for thirty thousand dollars, on which ten per cent. was paid and an agreement duly signed. When it became known that the lot was to go to the Government, Mrs. Titus tendered back the ten per cent. and the agreement, and stated that she had sold under misapprehension; that the property was worth more, and that she would not execute the deed. A suit is now in court to compel compliance with the contract, but meantime the Secretary has relieved Mr. Moody from conveying it and the corresponding lot on Adams street, so that the Government plot will be 175x235 feet, and the total cost will be \$408,500. The public building is to be used for the general Post Office, for the United States District Court, and for the office of the Collector of Internal Revenue. February 9, the Supervising Architect filed his report with the Secretary, recommending the purchase of the Johnson street site. On February 16, the Secretary sent the order to Mr. Moody to purchase it. During the week intervening, the pressure on the Secretary to purchase other sites was intensified, and at one time he had nearly concluded to purchase the Dutch Church property without the Court street front. Presuming that I knew the president of the Board of Trustees, he requested that I write asking him to communicate with him direct, as to price and terms, which was done. Against this plan the Supervising Architect filed written objections. The size of this plot is 145 feet on Joralemon street, running through to Livingston street 310 feet. On this street the frontage is 140 feet. After taking off forty feet on each side for an open space, as the law requires, the plot left would have been very unsuitable. With high walls on either side, at a distance of only forty feet, the light would have been shut out from the lower story. It would have afforded insufficient accommodation, particularly for the United States courts and attendant offices. The business is so large that two court-rooms, two jury rooms and other extra rooms are required; besides, the architect would have no opportunity for architectural display in planning the edifice. The city of Brooklyn is growing with astonishing rapidity. Its population is seven hundred thousand, and in a very few years, at its present rate of increase, it will reach one million inhabitants. Probably no other city in the United States is making more rapid progress. It should have a public building commensurate with its importance. If any mistake has been made, it is, perhaps, that a much larger sum was not available under the law, so that the Secretary could have selected such a site as would have entirely satisfied himself, and in so doing he would, beyond doubt, have satisfied the larger

part of the citizens. The Johnson street site is the best attainable with the means at his disposal, and is desirable because of its proximity to the City Hall and other city and county offices, its accessibility to New York by way of the Bridge and Fulton Ferry, and its close proximity to Wall Street Ferry. It is within one block of the business centre, upon a street which must, in the nature of things, become the great avenue from Brooklyn to New York. The business of the Post Office is undoubtedly the most important to the general public, although, under the existing system of collecting and delivering of letters by carriers, it is not visited so much as it otherwise would be, except for purchase of stamps, money orders, etc. I append a report of the postmaster for the year 1883. The business of the United States Courts is very large, in some branches of law, notably admiralty suits, one-fifth of all that are brought to court in the United States being tried in Brooklyn. I append statistics from the annual reports of the Attorney-General. The Internal Revenue office located here is one of the largest and best managed districts in the country, and was visited, in the month of May, by eleven thousand people for the transaction of business, its receipts aggregating three millions per annum. It may not be improper for me to state that I have had no personal interest in the selection of any particular site. My action has been guided by reasons which seemed to me to be wise at the time. The Honorable Secretary himself drew my attention to it. I objected to considering it, and advised the selection of the property at the corner of Adams, Willoughby and Pearl streets, and he requested me to ascertain its cost. It was found to be about \$650,000. It was then, after having exhausted every desirable site near the City Hall, and when the Secretary had decided to buy the Dutch Church property alone, without the Court street front, that I held it to be far preferable to buy the Johnson street property."

The statistics alluded to by the Congressman show that Brooklyn is well favored with Government litigation, and that its Internal Revenue business is not far behind that of any revenue district in the country.

The result of the Congressional investigation showed that there was no foundation for the charges made, and that the purchase was as honorable and legitimate a business transaction as was ever consummated, and that Mr. Moody deeded the property to the United States Government June 20, 1884, receiving therefor a check for \$408,500.

Mr. Moody went home from Washington after five months' fight, which he will probably recollect as long as he remembers anything. The weight of the load he has had to carry can be appreciated only by those familiar with the phases of legislation. He displayed qualities of endurance, and especially for delicate and effective manipulation, which surprised veteran legislators; and, what is more remarkable than anything else, when the forces he had to deal with are considered, is the fact that he has won his fight without soiling his fingers. The opposition parties were beaten at every point. They had all the advantages which are presented where a single objection may block legislation indefinitely, but they were outgeneraled to the last, thanks to Mr. Moody's tact, skill and perseverance, and the justice of his cause.

UNITED STATES INTERESTS

IN

KINGS COUNTY.



POST OFFICE, NAVY YARD, FORTS, INTERNAL
REVENUE, ETC., ETC.

BY

Henry R. Files. A.M. M.D.
Editor.

THE U. S. POST OFFICE IN BROOKLYN.—JOEL BUNCE was the first and (in 1819) THOMAS W. BIRDSALL, the second postmaster of Brooklyn, the office being in their store at the corner of Front and Fulton streets. He was succeeded by ERASTUS WORTHINGTON, a native of Colchester, Ct., who was for several years connected with the *Long Island Star*. His intelligence, activity, courteous and winning manners, and his enthusiastic love of music, made him a favorite in Brooklyn society. He was a stationer and bookseller; and, during his incumbency, the office was removed to Fulton street, nearly opposite Hicks. In 1824 the office was held by Mr. BENNETT, then by Mr. S. E. CLEMENTS, "an eagle-nosed Southerner and active politician;" and later by JOSEPH MOSER, whom we have noted on page 116. In 1829, ADRIAN HEGEMAN kept the office, in connection with books and stationery, in Fulton street, near Hicks, and served twelve years. In 1841, the late GEORGE HALL (ex-Mayor) was appointed postmaster, and the office being inadequate to the population, was removed from Fulton street to a small room in Hicks street, opposite Doughty. It remained there a few weeks and was then removed to a new building, twelve by twenty-five feet, put up for the purpose, in Cranberry street, between Fulton and Henry. At this time the whole force of the office consisted of the postmaster, one delivery and marking clerk, who acted as assistant postmaster, and had in addition a small stationery stock, which he found plenty of time to attend to, and the mail messenger, Benjamin Richardson, who took the mail twice daily to New York, and was the only letter-carrier of the village, and like many other historic personages survives in the memory of many, owing to a highly gifted dog which always accompa-

nied him. This benevolent quadruped entered with spirit on the business of letter-carrying and enjoyed a remarkable relish for the virtuous shins of our ancient citizens of thirty years ago.

During Mr. Hall's reign the gross receipts of the office amounted to less than \$5,000 a year. In 1845, Mr. HENRY C. CONKLING succeeded Mr. Hall, and the office was removed in Fulton street to between High and Nassau. During his term, in 1848, the large fire occurred in this city, and the post office was burned down. All matter belonging to it, however, was saved and removed to a place of security, and the office was opened in a rear room of the Apprentices' Library, on the corner of Cranberry and Henry streets. Here it remained only a short time, and was then removed to No. 6 Court street, in Montague Hall. The business gradually increased, and the office now boasted three clerks and six letter-carriers. In 1849, Mr. Conklings was succeeded by GOLD S. SILLIMAN, Esq., in whose reign nothing particular occurred, the business proceeding quietly and increasing with the population. Three more carriers, however, were added to the force. In 1853, Mr. Silliman was succeeded by DANIEL VAN VOORHIS, Esq., and the office was again removed to 357 and 339 Fulton street. Here it remained some five years, and in 1857 Mr. Van Voorhis was succeeded by Mr. WILLIAM H. PECK, and the office, which now employed about twenty carriers and five or six clerks, migrated to Montague street, near Fulton. In 1861, GEORGE B. LINCOLN became postmaster and held the office over five years. By this time the business had so greatly increased that it had some ten clerks and thirty carriers. It was during Mr. Lincoln's term that the money order department was opened, and several reforms were also made to facilitate business.

George B. Lincoln was born at Hardwick, Mass. in 1817, on the "Old" farm for a country store when fifteen years of age; and, at the age of twenty-one in 1838, commenced business on his own account in New York city. He early became interested in National politics, and in 1843, while residing in Massachusetts, he joined the old "Liberty Party," and was a member of the Faneuil Hall Convention, which first nominated Henry Clay for the Presidency. In 1852, he became a resident of Brooklyn, and active among the anti-slavery voters of the city. An earnest worker in the Fremont campaign of 1856, he was, in the words of Gov. Cullom, of Illinois, "among the first to name Abraham Lincoln as the next candidate of the Republican party, and did much to bring about his nomination."

He was the first, also, in one of his vigorous political letters to the press, to tell the story of Uncle Abe's having been a *rail-splitter*—a circumstance which, though in itself insignificant, furnished to the Republican party the most powerful political war-cry of that campaign.

Hon. Leonard Swett, of Illinois, who headed the Republican electoral ticket, always affirmed that it was Mr. George B. Lincoln who first gave courage to the people of that state to believe that their favorite could be elected.

In the first dark hour of the Rebellion, when Washington was threatened, Mr. Lincoln volunteered (the only representative of Brooklyn), and bore arms in the celebrated "Clay Guard," until the arrival of troops from the North. Appointed, by his great namesake, postmaster of Brooklyn, Mr. Lincoln was foremost in the support of the government, and in assisting and providing for the comfort of the troops entering upon, or returning from the field. In 1864, he was a delegate to the Baltimore Convention, which nominated Andrew Johnson as Vice-President; and, in 1865, was re-appointed postmaster of Brooklyn, at the urgent request of many of its first citizens. In 1868, he was appointed, by Gov. Fenton, a member of the Metropolitan Sanitary Commission, of which, shortly after, he became the President, an office which he held until the abolition of that commission in 1870 (see page 564).

It was during his presidency, and largely through his personal influence, that the slaughter houses were driven from the city limits of New York and Brooklyn, and the business moved to the improved abattoirs of Long Island City.

The eldest of Mr. Lincoln's sons, George B., Jr., was Adjutant of the 67th Reg't. N. Y. S. V., and engaged in most of the battles of the Potomac Army; and was subsequently on Gov. Fenton's military staff. The youngest, Frederick S., was for some time a master's mate in the navy, and subsequently appointed to the United States Naval Academy. Their mother,

Mrs. Lincoln, rendered comfort and valuable service, both in the hospitalities of her own home, and in the army hospitals, to the defenders of the Union.

In 1866, Mr. Lincoln was succeeded by THOMAS KINGSSELLA, Esq., who was nominated by President Johnson, but not being confirmed by the Senate, was succeeded on May 1st, 1867, by Col. SAMUEL H. ROBERTS, and the post office was once more removed to its present location in Washington street. The present office was erected and occupied within twenty-nine days after its commencement. In 1868, Colonel Roberts was succeeded by ANTHONY F. CAMPBELL, Esq., and in May, 1869, ex-Mayor SAMUEL BOOTH, Esq., became postmaster, serving until 1874.

During the year last mentioned the post office at Williamsburgh, of which C. C. TALBOT, Esq., was postmaster, and the post office of Greenpoint, of which SAMUEL S. FREE, Jr., was postmaster, were consolidated with the main office of Brooklyn. Mr. Booth retired from the postmastership and C. C. Talbot, Esq., was made postmaster of the consolidated offices. January 1st, 1878, Col. JAMES McLEER was appointed postmaster and has served continuously since. When he became postmaster he found the office a mere appendage to the New York department. Nearly all the mails despatched from Brooklyn were sent to that office, where they were overhauled and forwarded to their destination. Col. McLeer failed to understand why this should be the case. He concluded that the third city of the Union, within easy reach of the termini of the great railways of the country, should not be compelled to rely on the New York office for the dispatch of its mails. Thoroughly determined to secure independence for the Brooklyn office, quietly, but with characteristic energy, he applied himself to the work. He found that the people of Brooklyn were compelled to wait for the delivery of the great Southern mails until 11 o'clock in the morning. Under the old system this city—the seat of the United States District Courts, with a vast jurisdiction, the United States Revenue Office, having vital business relations with the whole of Long Island and Richmond County, and collecting from the industries of those counties nearly four millions of dollars a year—was compelled to await its mails from Washington and the great cities of the Atlantic seaboard until they underwent the slow process of filtration through the New York office. Colonel McLeer proposed that this should cease and that these important mails should be delivered at the Brooklyn office direct from the railway depots of Jersey City, thus enabling him to receive and deliver them at 7:30 A. M. Here the Annex boat was brought into requisition, and through its agency so manifest an improvement was secured that it was soon extended to the West and Southwest mail routes; so that now all mails for the Atlantic and Gulf states and for many of the

Western States are dispatched and received direct, to great saving of time and the decidedly better security of the mails. The postmaster gradually applied this system to the Eastern, Northern and Western mails, making up pouches or packages direct for the various railway post offices and railway route agents, thus securing direct dispatch without loss of time through the New York office. This whole matter of receiving and dispatching mails is now conducted as independently at the office in Washington street as it is at any first-class office in the country. And it is controlled solely by the postmaster and the Superintendent of the Railway Mail Service, whose office is in New York city. Very little Brooklyn mail, except some for the Northwest, is now handled at the New York post office. Col. McLeer also instituted numerous much-needed improvements in the collection and delivery of the mails, which he has perfected to such a degree as to render both branches of the post office work very effective. When he became postmaster there were only thirty-eight clerks and eighty-nine carriers, and about 14,000,000 pieces of mail were handled by the office annually. At this time (1884) fifty-five clerks and one hundred and forty-one carriers are employed. The city, for facilitating mail distribution, is divided into five districts. The main office embraces all that part of the city west of Bedford avenue, south of Flushing avenue and east of Macomb street and Gowanus canal; Williamsburgh station embraces all that part of the city lying east and north of Flushing avenue and Broadway and west of the Manhattan Railway and Meeker avenue; Greenpoint station embraces the whole of the Seventeenth ward; Van Brunt station embraces all that part of the city lying west of Macomb street; Brevoort station embraces all that part of the city lying east of Bedford avenue and south of Broadway and Flushing avenue.

The assistant postmaster is Col. Charles B. Morton; the superintendent of Williamsburgh station is William B. Hopkins; the superintendent of Brevoort station is Louis Baur; the superintendent of Greenpoint station is Edward Brooks; the superintendent of Van Brunt station is Edward P. McManus; the chief clerk is Col. William H. DeBevoise; the superintendent of mails is William H. Cunningham; the superintendent of carriers is William B. Maas; the superintendent of the money order branch is Barrett V. A. Lyon, and the superintendent of the registry branch is Thomas M. K. Mills.

The annual report of postmaster McLeer, for the year 1883, recently issued, shows that during the year the total number of pieces received and dispatched was 75,586,445. The total postal receipts for the year amounted to \$352,296.54, being an increase of \$34,220.86 over the previous year. The money order business reached the sum of \$1,504,090.02. The increase over 1882 was \$165,128.57.

Colonel Joseph M. Leer, *Postmaster of Brooklyn*, was born in Brooklyn in December, 1811. The opening of the civil war in 1861 found him a student in the law office of the late and learned Phillips & Conkey, awaiting the outcome of the payments that would enable him to contribute to the cause for which he had already passed a considerable expenditure. But the demands of country and the impulses of patriotism proved stronger than the promise of a comfortable profession career, and the war in 1861 found Col. McLeer among the first to enroll himself in the ranks of Company C, of the Fourteenth Regiment, which was mustered into service for the period of the war by General McDowell, May 29th, 1861. The young soldier, now beginning his active military career, was one of the first detachment of Union troops which crossed the Potomac to the Virginia shore, and took possession of the grounds in the vicinity of Arlington House, to which point the regiment subsequently followed and went into camp. On the 16th of July the offensive campaign against the Confederacy opened, the forward march was begun, and on the 21st, the Fourteenth had reached Centreville. On this date occurred the fateful battle of Bull Run, in which engagement the Fourteenth received its "baptism by fire." Crossing Bull Run at Sudley's Ford, the regiment went into action and unintermittingly fought for four hours and a half, but was at length forced to retire, the enemy being reinforced by the arrival of fresh troops. Three times during the engagement the regiment occupied the spot opposite the Henry House, whose character is fittingly described by the designation of "slaughter pen," on the third occasion re-capturing the guns of Rickett's battery, but afterward being obliged to abandon them for lack of support. During one of these charges Colonel McLeer was seriously wounded in the head and right arm. He remained in the hospital, most of the time delirious, for many weeks. Before his wounds were finally healed, however, he insisted upon rejoining his regiment, under the stimulus of the intelligence of a forward movement about to be undertaken by the Union forces, and participated in all the engagements and the terrible marches and countermarches of the campaign in Virginia, of 1862, up to and including the battle of Grovetown, in which engagement Colonel McLeer received a second serious wound that, likewise, from death seems well-nigh miraculous. The battle occurred on the 29th of August, the Fourteenth occupying the left of the first line of the Potomac army, when, ordered from the Warrenton station to fall on a hill just beyond the left of the regiment. Col. McLeer, while in the act of firing his rifle, received a shot in the left arm, just above the elbow, tearing the flesh, shattering the bone, and causing it to fall useless at his side. Recovering quickly from the shock, with wonderful nonchalance he said, "Well, I'll have one arm, that's my way," and kept his rifle and went along in



COLONEL JAMES MCLEER.

brought the piece to his shoulder, aimed and fired. But as the bullet sped from the barrel, a second shot shattered his right leg, and caused him to fall helpless to the ground. While thus grievously wounded, the tide of battle ebbed and flowed over the place where Colonel McLeer lay. Time after time the enemy charged in mass, in lines three and four deep, stumbling over the wounded until it seemed as if the little life remaining in their mutilated forms would be trampled out of them. To these succeeded the stragglers—the prowling *coyotes* of every battle-field—robbing the wounded and rifling the bodies of the dead of valuables and clothing. The young soldier felt that he was dying; the shock of the double wound had been very ~~much~~ ^{very} ~~weak~~ ^{weaker} from loss of blood, and as night began to settle down over the terrible scene, he felt that his time had come. Suddenly the thought suggested itself, that if he could stop the

profuse bleeding from the arm he might possibly live through the night; and taking his handkerchief from his pocket, and inserting one corner in his teeth, he succeeded eventually in tying it around the wounded arm, and partially quenching the flow of blood. During the night, with others, he was removed by a soldier of the Thirteenth New York Volunteers, to a place of shelter in the woods. With the break of day the battle recommenced. Quick and fast the shells began to play around the group of wounded men, of which Colonel McLeer was the central figure, cutting off the branches above their heads and dropping in dangerous proximity to their retreat. In this emergency it was determined to endeavor to signal the battery that there were wounded in that part of the wood; and one of the Fourteenth accordingly ripped off the leg of his red pantaloons, which was held up by one of the less seriously wounded of the number in hopes of attracting attention. To this day

Colonel McLeer is unaware as to whether the signal was understood or not; but the fact remains that the direction of the fire of the battery was almost immediately changed; and to this incident the survivors of that night attribute their escape from almost certain death. Throughout the day the battle raged backward and forward, the wounded lying close to the ground to escape the bullets which flew past them almost constantly, until late in the afternoon, when, with others, Col. McLeer was found and removed to an old stone house; the half of a shelter tent, held at either corner by a soldier, being made to do duty as a stretcher. Here a student surgeon insisted upon amputating Col. McLeer's wounded leg and arm, much against the Colonel's will; and it is possible that had he not been driven off by rebel missiles he would have done it, *volens volens*. Reaching the hospital, under the promise that his leg would be saved if possible, Colonel McLeer submitted to the amputation of his arm. Thanks to his splendid physical condition, after the lapse of within a few days of a year, Colonel McLeer was discharged from the hospital, his leg saved, but helpless as an infant; in which condition he was brought home, and so continued for nearly two years. On the return of the Fourteenth to Brooklyn, he was carried to a carriage and rode in the procession on the occasion of the enthusiastic reception which was extended the regiment on its arrival from the seat of war.

The subsequent military record of Colonel McLeer is too recent to require recapitulation here. Upon the reorganization of the Fourteenth as a National Guard regiment he was elected First Lieutenant of Company C, being afterward appointed Quartermaster on the staff of Colonel Fowler, and subsequently promoted Major, Lieutenant-Colonel, and Colonel of the regiment, which latter position he still holds.

In 1865, Colonel McLeer was elected City Auditor on the Republican ticket. In 1869, he was a candidate for Street Commissioner and, as was conceded, was elected, but did not serve. In 1873, he was appointed United States Pension Agent for the district of Long Island, with the addition of the payment of all the naval pensions for the state of New York, and served until 1875, when the office was consolidated with that of New York. On his retirement from this position, he received a very complimentary letter from the United States Treasury Department upon the exceptional correctness of his accounts. He was appointed Postmaster of Brooklyn by President Hayes, in December, 1877, and entered upon the duties of his office January 1st, 1878. A comparison of the present condition of the post office with that of the past shows clearly how much those who send and receive letters in Brooklyn are indebted to his zeal, industry and intelligence. Only those who have a special interest in the receipt and distribution of letters in Brooklyn can have even a faint idea of the radical changes and marked improve-

ments which have taken place in the postal service during the two years of Col. McLeer's administration just past. The success of those familiar with the organization and successful operation of it comparatively limited, but the results achieved have already made themselves very widely felt.

Colonel McLeer has been actively identified with the Grand Army of the Republic from its institution, having been one of the charter members of the first Post instituted in Kings county—Post 4. He has held the office of Post-Commander, was on the staff of General Sickles when the latter was Department Commander, and has been a delegate to every State Convention of the Grand Army in New York. He has been very active in the promotion of the benevolent work of the soldiers' aid societies, and has given largely of his time and means to assist disabled veterans and the widows and orphans of deceased soldiers to secure pensions, without other fee or reward than the consciousness of accomplishing an act of Christian charity.

Assessment and Collection of Internal Revenue in Kings County.—Under the law creating the offices of Assessor and Collector of Internal Revenue, Kings county was divided into two districts corresponding with its congressional districts; the Second Internal Revenue District consisting of the sixth, eighth, ninth, tenth, twelfth, fourteenth, sixteenth, seventeenth and eighteenth wards of Brooklyn, and the outlying townships of the county; and the Third District consisting of the first, second, third, fourth, fifth, seventh, eleventh, thirteenth, fifteenth, nineteenth and twentieth wards of Brooklyn. In March, 1871, Kings, Queens, Suffolk and Richmond counties were constituted the First Internal Revenue District of the State of New York. May 20, 1873, the office of Assessor was abolished; the entire local business since then has been transacted in the office of the Collector.

The offices of Assessor and Collector in the Second and Third Districts were established in 1862. The successive Assessors in the *Second* District were JOHN WILLIAMS, JAMES R. ALIBAN and ALBERT G. ALLEN; the successive Collectors were ALFRED M. WOOD, R. S. TORRES and JAMES FARRAR. The successive Assessors in the *Third* District were WILLIAM E. ROBINSON, THOMAS WILLIAMS, SIMON T. MAYNARD, MURRAY STANTON and JAMES JOHNSON. The successive Collectors were HENRY C. BOWEN, H. CALLECAT, E. T. WOOD and GORDON L. FORD. The Assessors of the *First* District, after the consolidation, and until the abolition of the office, were JAMES JOURDAN and OLIVER T. LEACH; the Collectors have been JAMES FREELAND and (since January, 1880) ROONEY C. WARD. The Internal Revenue offices have been located most of the time in the Hamilton building, on Court street, Brooklyn. The organization of the department in the First District, in January, 1880, was as follows: ROBERT D. WARD, Assessor;

Lector; Edward B. Fowler, *Chief Deputy Collector*; Oliver C. Patterson, *Cashier*; Alexander H. Doty, *Deputy-Collector and Bond Clerk*; Robert Anderson and Dora B. Robinson, *Book-keepers*; John Q. A. Strachan, *U. S. Marshal*; Grenville W. Harman, *Chief of Division Deputies*; Philander J. Hawkins, Charles H. Baylis, Samuel S. Aymar, Charles R. Phillips, Charles E. Bostwick, William M. Rome, Enoch Jacobs, Ebenezer H. Disbrow, Edward E. Bowen, Charles Schurig, Samuel Bowden, Robert J. Morgan, Charles O'Donnell, Wm. P. Pickett, and W. B. Dugan, *Division Deputies*; William H. Whitlock, *Chief of Spirit Department*; John A. Biggs, John H. Burleson, Jacob David, George A. Eden, Samuel V. French, Myles McLaughlin, G. W. Middleton, H. M. Craft, Samuel T. Waterhouse, James Woodhead, *United States Gaugers*; T. F. Bloomfield, James B. Collins, Robert S. Cooke, M. Fitzgerald, John A. Gardner, Jr., Joshua A. Garrison, James Greenwood, Lemuel C. Nodine, Elias W. Thompson, and William Josiah, *United States Storekeepers*.

The Navy Yard is located upon Wallabout bay, on lands originally forming a portion of the old Remsen estate, purchased, in 1781, by Mr. John Jackson and his brother, Samuel. John Jackson's portion having a good water-front, he established a ship-yard, where he built a large merchant ship, the *Canton*; and afterwards a small frigate for the United States, called the *John Adams*, which, after doing good service in the war of 1812-14, was burned by its commander, September, 1814, off the Maine coast, to escape capture by the enemy. In 1800, the Secretary of the Navy, having his attention called to this ship-yard as being well adapted for a first-class navy yard, appointed agents to effect its purchase, but they gave a preference to Bennett's Point, Newtown creek. Joseph Bennett, the owner, refusing to sell, Mr. Jackson, February 7, 1801, sold his property for \$40,000 to the United States government, which took possession on the 23d of that month. Later (1824) the United States purchased the piece of land now occupied by the Naval Hospital, from the widow and other heirs of Martin Schenck. This addition contained about thirty-five acres, and the price paid for it was \$7,650.

By these two purchases, the government became possessed of the land on the east and also on the west side of the Wallabout, and needed only to obtain the intervening plot of ground in order to make the site of the navy yard complete. August 14, 1848, Frederick Griffin and his wife, Catharine, conveyed to the United States, in consideration of the sum of \$285,000, all the land between the former purchases of the government and bounded on the water side by low water mark, and on the city side by Flushing avenue. March 1, 1867, the government bought of William Ruggles and others, for \$90,000, an irregular piece of land, with its water-front situated on the northerly corner of

the yard, lying at the foot of Little street. The total price paid for all of these purchases was \$426,707.50.

This property was originally but a waste of mud-flats, swamps and creeks, excepting only the hill on the western side, upon which the Commandant's house now stands, and that on the eastern side where the hospital is located. High water then reached the point about where the lower end of the building known as that of Provisions and Clothing now stands, and thence, in a circular line, as far as the foot of Sands street. From Sands street, along the present navy yard, as far as Flushing avenue, and thence as far as Clinton avenue, extending into the present City Park, was a large mill-pond, empty at low water; from thence along Flushing avenue to the hospital hill, down the bay and near the line of Washington avenue, there was no solid ground. The present Kent avenue basin was on the line of what is known as Schenck's creek. A toll-bridge spanned the mill-pond mentioned, from Sands street to Flushing avenue, near Hampden street; its locality being now solid ground within the precincts of the Navy Yard.

Along the front of the Navy Yard extends Wallabout bay, where, during the Revolutionary war, the British prison-ships were moored, and where, for eight years (1776-84) the British ships wintered. The horrors committed on board those prison-ships are matters of history. On the beach of the bay, as well as in the ravine, near Remsen's dock, were buried those patriots who fell victims to the British cruelty which prevailed on board the old *Jersey* and other prison-ships; till the whole length of the shore in front of the vessels was one vast graveyard, in which the interments were made so carelessly that the incoming tide often washed out the remains, scattering the bones to bleach in the sun along the low beach. The old *Jersey*, the most noted of the prison-ships, is thought to have been moored near where the northern part of ship-house No. 1 is now built. Fully 11,000 persons are supposed to have perished on board the old *Jersey* alone. What the aggregate mortality of all the prison-ships was, will never be known. In September, 1878, workmen, while digging to plant an anchor, near the northern corner of ship-house No. 1, exhumed portions of two skeletons, the skulls of which were in a state of good preservation, the teeth being perfect, and which were reinterred at Fort Greene.

The Navy Yard is enclosed on the land side by a high wall, within which are the various mechanic shops required in building and repairing vessels; a large and costly dry-dock; large buildings to cover ships of war in process of construction, extensive lumber warehouses, several marine railways, and immense stores of ammunitions of war. Upon an eminence, a little to the eastward of the yard proper, is a *U. S. Marine Hospital* for the care of the sick, aged or disabled seamen belonging to the navy. This building, which is faced

with white marble, presents a fine architectural appearance. Adjoining it, in the rear, a small but beautiful graveyard offers a quiet resting place to those who die in the hospital. In appropriate juxtaposition with the hospital is an extensive laboratory for the manufacture of medicines for the navy. The chemical and mechanical arrangements of this laboratory are remarkably adapted to their use; the laboratory being the only institution of the kind possessed by any government. The grounds belonging to the hospital establishments comprise some thirty-five acres. Upon Park avenue, a little south of the Navy Yard, are extensive *Marine Barracks*, etc. The *Naval Lyceum*, established in 1833 by officers of the navy, is a literary institution, which has a decidedly interesting history of its own. It has a library and museum, both of which are prized and contributed to by friends of the navy in all parts of the world.

The first officer ordered in charge of the Navy Yard appears to have been Lieutenant JONATHAN THORNE, who, according to the records of the Navy Department, was in charge from 1801 to 1806, during which period nothing was done to improve the property. Captain ISAAC CHAUNCEY came in 1806 and remained six years. The residence of the Commandant was built during his supervision, in 1806 and 1807 and, in 1811, it was damaged by fire and repaired. Other improvements were the stone embankments to the terraces contiguous to the house, which work was paid for by the proceeds of the sales of chips. The erection of six brick buildings was also begun. These buildings were designed for store-houses and offices, and in one of them was a large room fitted up for and set apart as the chapel of the yard, in which religious services were held on Sundays. These buildings were at the foot of Main street, and were torn down in 1868. Captain SAMUEL EVANS took command in 1812, and was the Commandant until his death in 1824.

Up to this time the government had done but little to improve the property, which was recognized as a naval station, but was not yet called a Navy Yard. The war with England occurring during this period, made busy times during 1812-14, more than one hundred vessels having been fitted out for sea, supplied with stores, etc. During 1815, the frigate *Fulton* was built, the first war steamer ever constructed by any nation, a thirty-gun vessel of 2,000 tons burthen, built upon a plan submitted by Robert Fulton, and able to throw both hot water and hot iron. She made her trial trip under command of Captain David Porter, father of Admiral Porter, and was destroyed while lying at anchor off the Navy Yard, in 1828, by the explosion of her magazine, by which accident one officer and forty-seven of her crew lost their lives. In 1820, the *Ohio*, a seventy-four-gun ship, was launched, which was modelled by Henry Eckford, and was regarded as a fine vessel. She was still in existence at a very

recent date, and as the leading ship of the navy. The construction of the frigate *Saratoga* was begun in 1824, but she was not launched until thirty years later. These vessels have been mentioned as having been the sailing force at this station.

After the death of Commandant Evans, and during the remainder of the past year, the yard was in charge of Captain Renshaw. In January, 1889, Captain Evans' residence was a second time reduced to remarkable remains, until the latter part of 1890, when it was made one of the Navy Contributions. In 1867, a house was built along the foot of the yard, near the foot of Sands street. It was claimed that it had been constructed upon private property, and the owners, who claimed the ownership, and some other persons, began to pull it down. The Commandant was sent for and expostulated vainly with the mob. The marines were summoned, but were restrained from employing force in dealing with the rioters. The affair was exciting but bloodless, and the title of the government was at length established. Captain GEORGE C. HENRIKSEN was in command from July, 1833, to November, 1839. During this period, the Lyceum building was begun, all the rooms of which, except the upper floor, are occupied as offices; the United States Naval Lyceum using the balance of the building as a library, museum and reading-room.

From November, 1839, to June, 1841, Captain JAMES RENSHAW was in command. In the year last mentioned, the construction of the stone Dry Dock was begun, which was a stupendous work, well planned and built. Its site was determined by Colonel Baldwin, in 1826, but efficient work was not commenced until 1841. It was subsequently prosecuted under the charge of several engineers, as follows: Prof. Edward H. Courtenay, August 1, 1841, to August 1, 1842; from which date until October, 1844, it was suspended. On the 11th of that month, it was resumed by General William Gibbs McNeil, who had charge until April 1, 1845; William P. Sanger, from April 1, 1845, to June 23, 1846; William J. McAlpine, from June 23, 1846, to October 1, 1849; General John B. Mason, from October 1, 1849, to August 30, 1851. The main chamber is two hundred and eighty-six feet long, by thirty-five feet wide at the bottom, and three hundred and seven feet long, by twenty-eight feet wide at the top. The floor is thirty feet thick, composed of the best granite. The masonry foundation is four hundred by one hundred and twenty feet, resting upon piles driven forty feet into the earth, the intermediate spaces being filled to a depth of two feet with concrete, composed of pebbles, broken granite and cement. Timbers one foot square are next dowelled to the heads of these piles, between which, concrete is again filled in. A plank floor, four hundred by one hundred feet, covers these timbers, on which rests another course of timbers and concrete, and over this, first, a course of

floor proper, of fine cut granite, the whole bed from the top of the piles being nine feet in thickness. The piles upon which this dock rests are nine thousand in number, the first one having been driven on the 26th of January, 1847, and the last on the 12th of May, 1848. The dock can be emptied by steam pumps in four and one-half hours. The total cost of this great work was \$2,113,173. There seemed to be at one period a commencement of a controversy between the town of Brooklyn and the United States government as to the title of the latter to the land, or a portion of the land, possessed by it. It was never brought to any determined issue, nor is there any evidence that the citizens of Brooklyn were actuated in their claims by ill-will to the government, or by any other motive than a simple desire to have their chartered rights respected.

Four vessels were launched during the administration of Commander RENSLOW, one of them the brig *Somers*, which afterwards became so notorious on account of the hanging from her yard-arm of Midshipman Spencer and two of her crew for an alleged attempt at mutiny. Captain M. C. PERRY was in command from June, 1841, to March, 1843; and, during this period, only one vessel—the ill-fated *Albany*—was commenced. After his retirement, Commander JOSHUA SANDS assumed temporary command. Captain SILAS STRINGHAM was the commander from June 15th, 1843, to September, 1846, and worked earnestly for the improvement of the yard. He was a resident of Brooklyn, and is well remembered by many of the older citizens at this time. Captain ISAAC MCKEEVER was in command until October, 1849, and was followed by Captain WILLIAM B. SALTER, who remained until October, 1852. During this time the stone Dry Dock was finished and also one of the finest structures in the yard—the large granite building which contains the boilers and machinery of the pumping engine of the dock. During the term of service of Captain CHARLES BOORMAN—from October, 1852, to October, 1855—many improvements were made in the yard; and the *Niagara*, a steam frigate built under the superintendence of the late George Steers from his own models, was launched. This vessel was afterward employed in laying the first Atlantic cable and, as an old hulk, is still existing at Boston. Captain ABRAM BIGELOW commanded for sixteen months following Captain Boorman's retirement, and was succeeded by Captain LAURENCE KEARNEY, who remained until October, 1858.

From October, 1858, to November, 1861, S. L. BREEZE commanded. During the latter part of this officer's administration party spirit ran high and civil war began. The Navy Yard, from its commanding position over the waters of the bay, with its valuable stores of munitions of war, was marked by those in the Southern interest for seizure and use against the

United States Government. Fortunately for the malcontents no attack was made. The yard authorities had been apprised of their intentions and any attempt to carry them into execution would have been fatal to those making it. From October 25th, 1861, until May 1st, 1865, during the busiest years of the civil war, when the Navy Yard was worked to its uttermost capacity, Rear-Admiral HIRAM PAULDING was in command. During a portion of this period the wharves were never left without vessels fitting for sea and preparing for blockade duty, and the sound of hammers was heard by day and night. Four hundred and sixteen vessels were purchased from the Commercial Marine and fitted out as cruisers. During 1861 there were employed daily an average of 1,650 men, at an expense for the year, for labor only, of \$679,000. In 1862 the average daily employment for labor was 3,970 persons, at an expenditure of more than \$2,000,000. The average during 1863 was 5,135 laborers, at a cost of \$2,874,000 for the year. During 1864 the roll had increased until at one time there were over 6,000 persons employed; but the average that year was 5,390 and the year's wages \$3,735,000. During 1865, no less than 5,000 persons were employed daily, at a cost of \$3,952,000.

Rear-Admiral CHARLES BELL came to the command of the Navy Yard May 1st, 1865, continuing until June 30th, 1868. Rear-Admiral GORDON succeeded him, remaining until October, 1870. Rear-Admiral MELANCTHON SMITH was the next commander. He was succeeded in June, 1872, by Vice-Admiral G. C. ROWAN, who remained till September, 1876. During this period the convenient building for the use of recruits was erected on the Cob Dock. On the lower floors are bath-rooms, barber shops, etc., while above are a library and reading-room and a hall which is used as a chapel and for amateur performances. September 1st, 1876, Commodore NICHOLSON took command, serving until May 1st, 1880, when he was succeeded by Rear-Admiral GEORGE H. COOPER, who gave place to Commodore JOHN H. UPSHUR, the present Commandant, April 1st, 1882. Various noticeable improvements have been made under the administrations of the three commandants last mentioned and the condition of the Navy Yard is as good at this time, in all respects, as it has been at any time for years.

May 23d, 1870, the United States Government ceded to the city of Brooklyn a strip of land on the northeast side of its property, since forming the street that fronts on Kent avenue. The question of disposing of the Navy Yard in Brooklyn and establishing one elsewhere has been discussed for some time past; but it is not probable that this step will soon be taken.*

United States Forts.—FORT HAMILTON, named after the illustrious Alexander Hamilton, is situated

* From an address before the L. I. Hist. Society, by Commodore NICHOLSON, published in *Brooklyn Advertiser*.

in the extreme south-western portion of Long Island, in the town of New Utrecht, in N. Lat. $40^{\circ} 37' 18''$, Long. $3^{\circ} 1' 15''$ east from Washington; and, by its pivotal position, commands the channel and the entrance into the Narrows. From it, views of Staten and Coney Islands, and the shores of New Jersey are obtained, and before its frowning walls the fleets of the world must pass in gaining the harbor of New York.

In 1808, DeWitt Clinton, then Mayor of New York city, was instrumental in obtaining from the state of New York an appropriation of \$100,000 for the fortification of the city; and, as President of the Board of Commissioners, was appointed to superintend the accomplishment of this important military work at this locality and in other portions of the bay. A structure was erected and a few light guns mounted immediately thereafter, and continued in use until 1824, when, under the direction of General Bernard, a distinguished French engineer, employed by the United States, the present fort was built. Fort Hamilton is of permanent granite masonry, quadrangular in form, one face of which is for water defence, and the others for land. It is surrounded by dry ditches, and a redoubt, 200 yards in advance, on the land side, is designed to prevent a landing of the enemy on the beach between the fort and Bath, and also to oblige him to establish his batteries at a greater distance in case of a siege. It is completely defiled from the neighboring hills, which might otherwise be occupied by an enemy to advantage.

By an act passed November 27, 1827, entitled "An act to invest in the United States of America the exclusive jurisdiction of certain lands in the town of New Utrecht, in the county of Kings, and for other purposes," 60 acres, 1 rood and 6 perches of land in one parcel, and $16\frac{1}{2}$ acres contiguous thereto, were ceded to the United States, and by an act amendatory of the above act, passed April 17, 1826, an additional parcel, containing 17 acres, 14 perches and 105 yards of land, was ceded; the entire cession being "for the erection of fortifications on the said tract."

In 1859, it was deemed expedient that the several statutes of this state relating to its territorial limits and divisions should be consolidated and arranged in appropriate chapters, titles and articles, and that the language thereof should be simplified; and an act concerning the territorial limits and divisions was passed, in which the boundaries of the Fort Hamilton tract were carefully given, corresponding (with the exception of a small parcel in the south-east portion of the original grant, exchanged in 1852 for a parcel in the north-west part, then belonging to George S. Gelston) in all respects to those of 1824 and 1826, and, at the present day, the boundaries remain the same, it being part of the old Denyse estate.

In 1843, that part of the Fort commanding the channel mounted 14 casemate and 26 barbette 32-

pounders; and 32 casemate guns of large calibre, 12 and 20 pounders were distributed along the land side, which also admit of musketry defence. In addition to which, there were 18 guns of smaller calibre for the defence of the ditch. At present, there are mounted twenty-six 15-inch smooth bore Repeating guns, and one monster of 20-inch bore. There are, also, a number of dismounted guns in readiness for mounting in case of an emergency. There are no rifled guns in the Fort. In modern times, but two 20-inch guns have been cast in the United States, or elsewhere, one of them being already referred to, and the other now lying, dismounted, on the wharf at Governor's Island. Its weight is 116,497 lbs.; the weight of 15-inch guns averaging a little less than 40,000 lbs. It was mounted in 1862, and since then has been fired about sixteen times. A record of the number of times a heavy gun is fired is kept by military authorities, the object being to ascertain the length of its working life. Previous to the present commander's assignment to this post, this was not done here. From the official record kept by him of its firing, we find, dated October 15, 1883, as follows:

"Weight of ball, 1,080 lbs.; weight of powder, 200 lbs.; 8° elevation; range in yards, 3,114; internal pressure registered 8,500 lbs. per square inch; line shot at floating target, 3,336 yards; ball fell short about 200 yards." And record of November 1, 1883, as follows: "Weight of shot, 1,080 lbs.; weight of powder, 150 lbs.; 14° elevation; range, 3,328 yards; with 11,000 lbs. per square inch, internal pressure; fired at deviation to the left of 2.8 yards." Each firing of this monster costs the government \$160. It is doubted by military men whether cannon of such large calibre will, in the emergencies of war, excel as much in effectiveness as in size.

The fort proper, the "*walled enceinte*" in military parlance, is not armed, and is only used as quarters. It is customary for the government to change every five years the districts of the five artillery regiments. The present commanding officer, and also of Fort Wadsworth, is Col. John Hamilton, to whom we are indebted for many of the facts recited in this article. His predecessor was General Gustavus Adolphus De Russy, of the Third Artillery. Col. Hamilton came from McPherson Barracks, Atlanta, Ga. His command is the Fifth Artillery Regiment, of which he has at Fort Hamilton three companies of foot batteries, and one light artillery battery, making a total of only 250 men. The company of light artillery, comprising 65 men, 5 officers, 50 horses and 4 guns, under Major Randolph, is denominated a peace allowance as a school instruction.

The regimental band of the Fifth Artillery is composed of two men from each company and a drum-major, under the able leadership of Prof. Wiegand.

The annual cost of the maintenance of this post is about \$125,000.

Fort Mifflin, located on the easterly side of the Narrows, at the entrance into the Bay of New York, and upon the reef known as Hendricks' Reef. It is separated from Fort Hamilton by a shallow channel.

The deed of cession describes it as 30 acres, 2 roods and 4 perches of land, covered with water; and in the General Act of 1859, finally settling the territorial limits and jurisdiction of New York state, the description, of the cession of 1812 was adopted, and so remains up to the present day.

The erection of the fort was begun the same year, it being made of solid free-stone masonry. At its completion on account of its peculiar shape, it was called Fort Diamond.

At that time it was the only means of defence we had at the entrance of the bay; and from its particularly advantageous position, in an attempt of the enemy to affect a landing, it would have been our chief aid in repelling him.

During the visit of General Lafayette in 1824, it was re-christened, and has ever since borne the name of that true friend of liberty. In 1843, the battery consisted of 73 guns in three tiers; the lower 42, the middle 32, and the upper 24 pounders. During the late war, it was used principally as a place of safe-keeping of prisoners of state, being under the command of Colonel Burke. In 1868, it was dismantled and the guns removed to the adjoining forts. The first of December, 1868, in midday, while the roof was being repaired, the interior caught on fire and the fort was rendered useless; and, to-day, this once famous and now historic fortress is fast crumbling in decay, its naked walls resounding not with military life, but doing humble duty as a storehouse. It is under the charge of the commanding officer of Fort Hamilton.

Across the channel and directly opposite Fort Hamilton, on Staten Island, stands

FORT WADSWORTH.—From its position, it commands more perfectly than does Fort Hamilton, the channel and entrance of the narrows, and during a foreign invasion, it would be our greatest protection.

Its area of about 90 acres was purchased from New York February 10th, 1818, by the United States, and by them its territorial jurisdiction, so far as affecting state rights, was transferred to the State of New York

There are five auxiliary water batteries,—Richmond, Tompkins, Hudson, North and South Batteries. Tompkins was built in 1812; the others were begun in 1861. Fort Wadsworth was named after the lamented General James S. Wadsworth, of western New York, who lost his life in the memorable seven days' battle of the Wilderness. It was commenced in 1827 and finished in 1869. It has 20, and Richmond 9 eight-inch mounted rifled guns. There is now stationed there, under the command of Colonel Closson, one foot battery of artillery as a guard—denominated the Wadsworth Guards.

The narrows between Forts Hamilton and Wadsworth are one and one-fourth miles wide, being about six miles from the Castle Garden and twelve miles from Sandy Hook.*

HON. WILLIAM H. LYON, U. S. Indian Commissioner. —In this gentleman, Brooklyn possesses, as a resident, not only a representative of the highest mercantile circles, but a representative of one the most important interests of the General Government.

By Act of Congress, approved April 10, 1869, the President of the United States was authorized, at his discretion, to organize a Board of Indian Commissioners, to consist of not more than ten persons, to be selected by him from men eminent for their intelligence and philanthropy, to serve without pecuniary compensation; who may, under his directions, exercise joint control with the Secretary of the Interior over the disbursement of the appropriations made for maintaining the peace among, and with, the various tribes, bands and parties of Indians, and to promote civilization among said Indians; bring them, where practicable, upon reservations; relieve their necessities, and encourage their efforts at self-support.

From the inauguration of the so-called Peace Policy with the beginning of President Grant's first administration, until the present, the progress in civilization among the Indian tribes has been marvellous; and the labor, time and zeal given to this work by the Board of Indian Commissioners, cannot be measured by dollars and cents. The practical business men of the Board created a revolution in the purchase, inspection, transportation, delivery and distribution of Indian supplies. The old corrupt system of making awards to favorite political contractors was abolished, and the same principles and rules on which honest trade among individuals rests, were adopted by the Board of Indian Commissioners. Gen. Grant was fortunate in selecting competent, experienced men, of national reputation for ability, integrity and philanthropy. Among the Commissioners have been Felix R. Brunot, of Pittsburgh; George H. Stuart, of Philadelphia; Robert Campbell, of St. Louis; John V. Farwell, of Chicago; General Clinton B. Fisk, of St. Louis; General H. H. Sibley, of St. Paul; General George H. Stoneman, of California; Gov. D. H. Jerome, of Michigan; Edward S. Tobey, of Boston; William E. Dodge, and William H. Lyon, of New York.

When, in 1876, Hon. Zachariah Chandler, the Secretary of the Interior, was requested by President Grant to select a practical business man in the city of New York as a member of the Board of Indian Commissioners, he chose WILLIAM H. LYON. The government and the Indians are to be congratulated upon this most fortunate selection. Mr. Lyon was assigned to the Purchasing Committee immediately, and for many

* Furnished by Henry D. Kingsbury, Esq.



William W. T. Lyon

years has served as its chairman, giving to the business of the Government the same measure of devotion that had made him one of the most successful merchants in the city of New York. The business of the Government's Indian Warehouse in New York received from Mr. Lyon the same conscientious attention that he had given his private affairs. *The best article for the purpose, at least possible price*, was the one rule governing him and his associates. These methods stamped the "shoddy" contractors, and now the best merchants, millers, manufacturers, and cattle dealers in the country, compete by hundreds for the contracts. Mr. Lyon's visits to Chicago, St. Paul, St. Louis, Denver and San Francisco, in the interest of the Government's purchases, established at those great centres the same careful, honest methods that governed in New York. His visitations among the northwestern tribes have contributed largely towards securing justice for the Indians, schools for Indian children, and industrial education in its broadest sense. The Government was wise in establishing the Board of Indian Commissioners, and most fortunate in securing, as members thereof, gentlemen of the ability, experience and character, of Hon. Wm. H. Lyon.

Mr. Lyon is, at present, Chairman of the Purchasing Committee, which is credited with having saved the Government millions of dollars in the purchase of Indian annuity goods, supplies, etc., since this Board was established. In former years, the purchases were so conducted that certain contractors were sure to get the awards. Last year 354 bids were received and awards were made to 145 different parties; and, under the present management, those persons are considered the lowest bidders who give the best value in goods at the price, and such invariably get the contracts. During several summer vacations, Mr. Lyon, as a member of this Board, has visited, and held councils with, the following Indian tribes: Chippewas and Pembinas, in Northern Minnesota; Sioux, Mandans, Arickarees and Gros Ventres, in Dakota; Poncas, in Nebraska; Utes, in Colorado; Northern Arapahoes and Cheyennes, Bannocks and Shoshones, in Wyoming; the Pi Utes, in Nevada, and the Mountain and Yellowstone River Crows, in Montana.

We have spoken of Mr. Lyon in his public capacity; let us now consider him in his personal relations, as a merchant and as the senior and founder of one of the most prominent importing and jobbing houses in Fancy Goods in this country.

He was born at Holland, Hampden Co., Mass., October 18th, 1819; and (as was also Gen. Nathaniel Lyon, killed at the Battle of Wilson's Creek, Mo., in the late war) is descended from William Lyon, one of the early English settlers of Massachusetts, and who located, in 1635, at Roxbury. At the age of 14, Mr. Lyon was sent to Hartford, Conn., to attend school, with the purpose of ultimately studying law. But, after leaving

school, he went to Waverly Co., N. Y., and was for some time employed in teaching; then, for two years, as Principal of the Clyde High School. It was while he was in charge of that school, that Prof. Morse first put his telegraph in operation between Washington and Baltimore. The subject of telegraphy greatly interested Mr. Lyon, and, in the course of some experiments which he made, he invented a portable telegraph, or, rather, he demonstrated, by means of a model which he constructed, that pen and ink, or type and ink, could be used in the conveying of messages by an telegraphic wire. Mr. Lyon, strange as it may seem, never pressed his claim as a valuable discovery, or ever took any means to secure to himself the discovery himself of this discovery. Yet it became, no doubt, the basis of a theory which has since been utilized.

The *Clyde Eagle*, of July 11, 1841 (Vol. 1, No. 4), has a two column editorial, headed "The Electro Magnetic Telegraph Improved," in which was the following: "With this machine Mr. Lyon is able to write with pen and ink with the same facility that Professor Morse scratches characters upon paper with points of steel." This editorial was copied into the *New York Commercial Advertiser*, *Evening Post*, and *Boston Traveller*, and journals of lesser note.

A card, in a subsequent number of the same paper, says: "We have seen Mr. Lyon perform experiments with his machine for writing with pen and ink as Professor Morse's system of Electro Magnetic Telegraph, and take pleasure in saying that it worked to our perfect satisfaction, and displays no small share of ingenuity. The inventor, Mr. Lyon, explained to us his intended improvement by which he will be enabled to convey intelligence by means of the real letters of the alphabet as readily and speedily as Morse can make his scratches with steel." This was signed by seven prominent residents of the place.

About this time he changed his mind in regard to studying law, and decided that a mercantile profession would be more to his taste.

In 1843, Mr. Lyon came to New York, and engaged in the wholesale dry goods business. In 1847, he changed from dry goods to what was then termed the Yankee Notion and Fancy Goods business, which he has since continued to carry on to the present time. He was early known to the superiority of goods for becoming and was among the first of our merchants to visit Europe for the purpose of securing a first-class assortment of Fancy Goods (lingerie) for general consumption in New York, for porters.

In 1848, after having completed his studies and examinations in England, he proposed going to France, but was prevented from so doing by the revolution then in progress there. While waiting in Belgium, he learned of the flight of Louis Philippe to England, and the establishment of the provisional government of the French Republic under Lamartine. The 200 Committee, the

France, and was the first American merchant to enter Paris after the insurrection. Everything was in confusion, business prostrated, and the commission houses and manufacturers had large stocks of goods on hand, which they were very anxious to turn into money. Mr. Lyon bought heavily at very low prices, and also made plans for future shipments, many of which arrangements continued to this day. He afterwards extended his connections to all the leading manufacturing centres of Europe, until few houses are better known throughout the commercial world.

Mr. Lyon first commenced business in 1845, at No. 169 Pearl street, New York, then the wholesale jobbing centre, where he remained until the business began to move towards Broadway; when, in 1851, he moved to 4 Dey street, near Broadway, and afterwards, in 1860, to No. 19 Cortlandt street.

The business steadily increasing, larger quarters were needed, and, in 1864, the firm of Wm. H. Lyon & Co., removed to No. 371 Broadway, where they remained until 1870, when they changed their location to the spacious warehouse which they now occupy, Nos. 483 and 485 Broadway, a store 50 feet on Broadway, running the entire block, 200 feet to Mercer street. The basement and several floors cover a space of 50,000 square feet devoted to the display of their extensive stock.

In all these nearly forty years, his house has kept in the van of progress. They import goods from Europe, China, India, and Japan, and their sales extend not only to every State in the United States from Maine to California, but also to Mexico, West Indies, South America, and Canada.

Mr. Lyon has been a member of the New York Chamber of Commerce for many years; is a director in the Brooklyn Life Insurance Company, and has been Chairman of its Executive Committee since the organization of the company.

He was one of the incorporators of the New England Society of Brooklyn, and a director since its organization. He is a member of the Long Island Historical Society; also of the Oxford Club, and one of its directors.

In 1878, while absent in California on Indian business, he was nominated for Congress in the Fourth District on the Republican ticket. This district has always been strongly Democratic, but Mr. Lyon's candidacy reduced the usual majority about one-half, which strongly attested his personal popularity among his fellow-citizens.

In 1879, his name, contrary to his wishes, was brought before the Mayoralty Convention, and on the regular ballot lacked but a few votes of a majority. In the next contest for the mayoralty nomination his name was prominently mentioned, but he peremptorily declined to allow it to be used.

Mr. Lyon is a gentleman of imposing figure and commanding appearance. Although his attention has

always been given strictly to his business engagements, he has found time for social enjoyment and public duties; his congenial temperament enabling him fully to enjoy life, as he journeys through it. His energy and business ability have contributed much not only to the business progress of New York, but of other portions of our country. Many years ago, he invested largely in property at Lake City, on Lake Pepin, Minnesota, where he built the principal hotels and stores of the place, and where the main avenue is named after him. This property he still holds, together with much other real estate in Minnesota, Iowa, and Dakota. He is a large owner of real estate in this city, on New York avenue, where he resides, and where he has recently built several elegant dwelling-houses, which greatly improve that section of the city.

United States District Judge.—It is the duty of the District Judge to preside at trials for, or motions concerning, violations of the United States Statutes in his district. The present Judge, CHARLES L. BENEDICT, was appointed on the organization of the Court, in March, 1865, and has continued to serve from that time, without interruption, up to the present.

He also presides over the Circuit Court of the United States for the southern district of New York. The Circuit Courts being held in New York, and the District Courts in Brooklyn. Courts are held monthly, except in July and August. The judicial matters under his charge are divided into four branches, namely: Jury, Admiralty and Equity cases and Criminal Trials.

Samuel T. Jones served as Court Clerk from 1865 to 1873, from which time to 1875, Edward B. Husted was acting Clerk. In 1875, B. Lincoln Benedict was appointed, which position he now holds.

United States District Attorney.—The duties of this officer are to prosecute all violations of United States Statutes, committed in his district, which comprises four counties—Kings, Queens, Richmond and Suffolk. The first District Attorney appointed in this district was BENJAMIN D. SILLIMAN, in 1865, who resigned in 1866, and was succeeded by General BENJAMIN F. TRACY, who was succeeded by ASA W. TENNEY, the present incumbent, 19th February, 1873.

The United States Commissioner.—His duties are mainly to issue warrants for arrests in criminal cases, to preside over the U. S. Commissioner's Court, and he is also Chief Supervisor of Elections for the Eastern District of New York.

JOHN J. ALLEN is the present Commissioner, and he was appointed by Judge Benedict September 22, 1874. Under the administration of Gen. Benjamin F. Tracy, as U. S. District Attorney, Mr. Allen was the Assistant.

The United States Marshal's Office for the Eastern District of New York, is located in a suitable building, on the corner of Montague and Clinton streets, Brooklyn, New York. This district com-



A. C. Tate.

prises Long and Staten Islands, and also has jurisdiction over the waters of New York county. The office was organized here in March, 1865, the first Marshal being ANTHONY F. CAMPBELL, who was appointed that year, and served up to 1867, when he resigned, his deputy, FRANCIS L. DALLON, succeeding him. Mr. Dallon served until 1871, when SAMUEL R. HARLOW was appointed by President Grant, and until March, 1883, Mr. Harlow continued in charge of affairs. In that month the present incumbent, Major AUGUSTUS C. TATE, received the nomination by President Arthur for a term of four years, and has, since then, had charge of the office.

It is the duty of a United States Marshal to secure the arrest of any person or persons engaged in counterfeiting United States legal tender, smuggling, the illicit manufacture of whiskey, or purloining of United States property; and, on proper notification, to arrest and detain thieving or embezzling post-office officials or clerks; also to see that no dangerous explosives, such as dynamite, are shipped to foreign ports, for improper use. The Marshal of this district is now acting under an order of the government, dated 12th March, 1884, relative to the shipping of dynamite.

There is, yearly, more money involved in the cases issuing from this office, than in all other courts of Kings county combined.

One-fourth of the admiralty business of the United States is done here.

A marshal cannot be removed save by death, resignation, or for cause.

AUGUSTUS C. TATE was born in New York City, January 6, 1836, and received the education of an education in the public schools of that city. When fourteen years old he went to the "Charlotte Academy," in Delaware county, New York, for further instruction, staying there three years, at the end of which time he returned to New York City, and was engaged with his father, William Tate, in the dry goods business. At the breaking out of our late war Mr. Tate then, twenty-six years of age, because of the high regard in his country's high and eminent as a private in the 12th New York State Militia, April 19th, 1861, and thus proceeded to enter service the same day. He served three months; and then re-entered service as Captain of the 1st New York Volunteers, August 26, 1861, for a term of three years. And September 9, 1862, was promoted to Major, which position he held at the time of his honorable discharge in 1865. In 1866 he was again in New York, visiting his family, and spent the winter of 1867-1868, but having been recalled and was the commandant was

practically over. Major Tate participated in most of the important events of the stirring events of the war, and was appointed to an inspectorship in the New York Custom House, which he held until March, 1883. From 1869 to 1873 he was aid to Surveyor Alonzo B. Cornell. In March, 1883, on the recommendation of General U. S. Grant and the Republican organization of Kings county, he was appointed United States Marshal for the Eastern District of New York, which office he now holds. Mr. Tate, since the formation of the Republican party, has ever been a hard-working, consistent member. He was secretary of the Soldiers' National Convention, held

at Chicago in 1868, when General Grant was first nominated for President. He was also president of the first Grant Club organized in Brooklyn in the year 1867, and during the Presidential campaigns of 1868 to 1880, was General of the Boys in Blue. He is Past Commander of Devlin Post, No. 148, Grand Army of the Republic, and member of Kings County Republican General Committee. He is a member of the Hanson Place M. E. Church of this city.

Mr. Tate is a man of firm convictions, positive in all his actions, and to these essential attributes much of his success in public life can be traced. His friendships are lasting, and in his contact with the public, his courteous and genial manners win for him the kind regard of all.

GEN. ALFRED CUTLER BARNES.

GEN. ALFRED CUTLER BARNES, eldest son of the founder of the well-known publishing firm of A. S. Barnes & Co., was born in Philadelphia, on the 27th of October, 1842. His father removed to New York in 1845, and to Brooklyn in 1846. Here, while residing in Garden street, the boy commenced his school life, first with the Misses Pinkham, in Henry street; afterwards with Prof. B. W. Dwight, the well-known classical scholar in Livingston street. When the Collegiate and Polytechnic institute was open in 1855, Alfred became one of its first pupils. In the summer of 1857, he attended the Rev. Mr. Fox's boarding school, in Ashland, N. Y., where he graduated as valedictorian, but returned to the Polytechnic in the fall. Entering his father's office during the long vacation of 1858, with the intention of entering Yale College in the autumn, young Barnes became enamoured of business, and, commencing as mailing clerk, he steadily rose to the head of the jobbing department, where he enjoyed excellent advantages for travel and commercial acquaintance in the line of his business. In 1865, after the death of his uncle, Mr. Burr, he was admitted into the firm as a partner; and gradually assumed the chief executive management of the business, which, with his father's valued advice, he has since maintained. In the conduct of the business, Mr. Barnes' views are conservative, following the traditional policy of the house, viz., of only publishing the best class of books, relying on their merit, and upon honorable methods of business for success.

As a youth, Mr. Barnes possessed decided literary and forensic taste, which he found opportunity of gratifying in the meetings and debates of the "Webster Literary Society," formed in 1856, and of which he was twice President. His pen also found congenial scope in the *Educational Bulletin*, which he established and personally edited until it was superseded by the *National Teachers' Monthly*. His controversial articles in this journal, especially a series of papers on the methods of teaching German, called forth by a sharp attack upon

Dr. Worman's text-books, attracted much favorable criticism. Barnes's *Brief History of the United States*, the most successful single book ever published by the house, was especially the enterprise of A. C. Barnes. Under his administration, also, the firm has published, among other important works, the *Magazine of American History*, *The International Review*, *Mrs. Lamb's History of New York City*, *Ficklin's Mathematics*, the *New National Readers*, *Sill's Grammar*, *Steele's Scientific Books*, etc. By the book trade at large, Mr. Barnes has been variously honored. His first appearance at a Trade Convention in July, 1874, was followed, in the fall of the same year, by his election as president of the newly organized "Central Booksellers' Association," comprising all the trade in New York city and its vicinity. A frequent and conspicuous attendant upon the annual general Trade Conventions and the gatherings of the Stationers' Board of Trade, his abilities as a practical business man, and his gifts as a most agreeable "after-dinner speaker," were brought into frequent demand. Of fine personal presence, engaging manners, excellent conversational powers and tact, and clear, alert and logical in his thoughts and powers, he is universally recognized as a leader among the younger school of publishers.

Inheriting the military tastes of his maternal grandfather, Gen. Timothy Burr (a commissary general of the Western Army of the United States, in the war of 1812), Mr. Barnes, in 1860, being then just 18 years of age, joined Company "C," of the 7th Regiment, N. Y. S. N. G.; and almost before he had emerged from "the awkward squad," in which its neophytes are trained, the war of the Civil Rebellion broke out. He was one of the number, on that memorable day, April 19th, 1861, who filled the ranks of that splendid regiment as it swept down Broadway, amid such patriotic excitement as that great thoroughfare has never before or since witnessed, en route for Washington. When, in 1862, the 23d Regi-



Alfred Barnes

ment was organized, Mr. Barnes joined Company "E," by transfer from the 7th Regiment. In 1863, he was made "Left General Guide" of the regiment, with the rank of sergeant. In the same year, also, he accompanied his regiment, in its response for a call for troops, to check the rebel advance in Pennsylvania, which advance ended in the memorable battle of Gettysburg. In May, 1864, Sergeant Barnes was elected First Lieutenant of his company, receiving his commission from Gov. Seymour. In 1867, his term of service having expired, he resigned and remained for nine years inactive. In the interval, he was elected Vice-President of the civil organization known as the 23d Regiment Veteran Association, of which eventually he became President. October 23d, 1876, he was elected Major of the regiment, receiving from his "vet" associates a very beautiful sword. In this capacity he served with his regiment in the "railroad riots" of 1877. At Corning, with a command of one hundred men, and "mounted on the engine, revolver in hand," he ran his train through an excited mob of rioters whom he awed, in the language of the official report of the Inspector-General of the State, by his "indomitable pluck and energy." A full account of this interesting expedition, written by Major Barnes himself, appeared in the *National Guardsman*, June, 1878. As President of the Regimental Court he instituted many improvements in the old methods of conducting trials; was also President of the Council of Officers; and was notable as a drill officer, especially in battalion drills. As such he was given command of the 23d Regiment Cadet Corps, the first of its kind in the National Guard, which was organized October, 1877, and which, under his careful handling, developed excellent material for a new company (H) in the regiment proper. When the command of the Second Division of the N.Y.S.N.G. was vacated by the death of Major-Gen. Dakin, 1879, Major Barnes found himself a prominent candidate for the position, backed by many eminent military men and senators. A political dead-lock, however, prevented any appointment at that time. In December, of that year, however, Major Barnes was appointed by Gov. Cornell as General Inspector of Rifle Practice upon his staff, and received a commission (dated January 1st, 1880) as Brigadier-General in the National Guard.

Gen. Barnes' idea of rifle range practice was that a *general average of excellence* should be sought, rather than the superlative excellence of a few. The consequence was a gradual, but striking, improvement of the State "figure of merit" in rifle practice (from 18 to 47 in three years). He cut down the individual practice classes from three to two; introduced target firing in ranks; insisted upon theoretical armory drills to prepare for the field; issued sharp-shooters' silver bars, etc., etc. Creedmoor and all other of the State rifle ranges were under his supervision; and he was one of the party of staff officers, designated by Gov. Cornell for the purpose, who selected the site for the perma-

ment State camp at Peekskill, where he superintended the construction of the fine range there established. At the close of Gov. Cornell's administration, Gen. Barnes was succeeded by Gen. C. F. Robinson, who has complimented his predecessor by retaining the practice system almost without change.

Republican in politics, Gen. Barnes was first a delegate, in 1876, to the Second District Congressional Convention of New York State, from the Twentieth Ward, of which Ward Association (of 2,500 members) he was subsequently twice elected president. In 1877, he was chairman of the Senatorial Convention for the Second District; as he was also of the ward delegation to the City Convention of 1878; and again in 1879 a delegate to the Third District Senatorial Convention; and in 1880 chairman of the Congressional Convention of the Third District. He was a delegate to the New York State Republican Convention of 1881, and prominently named, in 1882, as candidate for Congress in the Second Congressional District, as also for Comptroller of the city of Brooklyn, but he declined to permit his name to be used.

In the important local campaign of 1881, Gen. Barnes took a very active part. By the personal request of Mr. Seth Low (then president of the Young Republican Club), he accepted the chairmanship of the citizens' mass meeting at the Rink, which nominated Ripley Ropes for the mayoralty. The regular Republican Convention nominated Gen. Tracy. Subsequently both candidates appeared before a great assemblage in the Academy of Music, at which Gen. Barnes also presided, and withdrew in favor of Seth Low, who was then nominated and triumphantly elected.

Gen. Barnes was appointed a trustee of the East River Suspension Bridge, June 8, 1879, and has since received two re-appointments, viz., in 1881 and 1883. He prepared a description of the great structure, which was published with illustrations, and had a wide circulation. He has been for several years a director of the Brooklyn Library, on Montague street, and is now its vice-president.

Gen. Barnes was one of the principal founders of the *Oxford Club*, which was organized at his residence in 1880, and was its first president, which office he held, by re-election, for two subsequent terms. He was also one of the committee of eminent gentlemen appointed by the Governor of the State of New York to receive the French and German military delegates to the great National centennial celebration of the surrender of Yorktown, during the summer of 1881; and the military arrangements of that reception were under his especial charge. In November, 1883, he was unanimously tendered the colonelcy of the Thirteenth Regiment, which he was obliged, owing to other duties, to decline; under great pressure, however, he subsequently reconsidered, and was elected to the position March 28th, 1884. With his commission as Colonel, his rank of Brigadier-General was also renewed by brevet.

Gen. Barnes is a member of *Leipziger Post* of the Grand Army of the Republic; a director (from its organization) of *The Metropolitan Plate Glass Insurance Co.*, of the *Real Estate Trust Co.*, the *Tehuantepec Railway*, the *Stationers' Board of Trade*, and one of "the council" of the *Hamilton Club*; also a member of *The Art Association*, *The Long Island Historical Society*, *The New England Society*, and of the *Brooklyn Citizens' League*; is a director of the *Brooklyn City Hospital*, and was president, for a year, of the *Brooklyn Home for Consumptives*; also, he has been a member of the *Howard Literary Association*; of the *Euterpe Musical Sociable* (of which he was president, 1878-9). When, in 1869, the *Adelphi Academy*, originally a private school, was purchased by a number of citizens and placed under a board of trustees, Gen. Barnes was (and is) one of that board, and for several years acted as its secretary.

Gen. Barnes' church connections have been with the Church of the Pilgrims, under the Rev. Dr. Storrs, and with the Clinton Avenue Congregational Church, under the pastorates of Drs. Lansing, Budington, and

McLeod. He has always been active in Sunday-school and mission work, and, in 1874, was elected superintendent of the *Willoughby Avenue Mission School*, which he served in that capacity for four years. In 1882, he was unanimously elected superintendent of the Clinton Avenue Church Sunday-school, but declined. He has also been on the musical committee of the Clinton Avenue Congregational Church for many years.

On the 27th October, 1863, his twenty-first birthday, Mr. Barnes was married, in Dr. Cuyler's Church, to Josephine E. Richardson, daughter of H. A. Richardson, Esq. The young couple dwelt at first at No. 9 Lefferts street, but in November, 1866, purchased the house, 182 Cumberland street (Washington Park), where they have ever since resided. Their children are: Harriet J., born 1864; Mary Grace, born 1867, died 1873; and Alfred Victor, born 1870.

Gen. Barnes has made two extended tours in Europe with his family, in 1873 and 1883. In 1870, he visited California, and published his observations in a series of papers for the *New York Home Journal*, entitled "On the Pacific Rail," over the signature of "Barnacle."

EDWIN BULKLEY.

EDWIN BULKLEY, the son of Andrew and Sarah Dimon Bulkley, was born at Southport, Conn., December 2d, 1817, and was a descendant of the Rev. Peter Bulkley, who settled in Concord, Mass., in 1635, being obliged to leave England on account of his non conformity to the requirements of the English Church, and who was of the tenth generation, from Robert Bulkley, who was born in the reign of King John.

About 1642, several of the sons of the Rev. Peter Bulkley settled in Fairfield county, of which Southport is one of the towns. Most of Mr. Bulkley's early ancestors were engaged largely in the shipping business, at a time when American ships held the supremacy on the high seas. His grandfather, Eleazer Bulkley, in the year 1788, founded the firm of E. Bulkley & Sons, which continued in business in New York nearly three-quarters of a century.

At an early age, leaving his native town, he came to New York, where, after a few years of business experience as a clerk, in 1838, at the age of twenty-one, in connection with Hiram Gookin and Jeremiah L. Cross, he founded the wholesale paper house of Cross, Bulkley & Gookin. He continued in the paper business until his death. The firm name changed to Bulkley, Duntun & Co. in the year 1865, and has been so known since, his two sons, after his death, taking his place in the firm.

In the year 1865, in connection with the late Colonel Alvah Crocker, of Fitchburg, Mass., and other capitalists, he started the then small village of Turner's Falls, which, by the development of its unsurpassed water power and natural advantages, has since become a thriving town.

Besides being instrumental in founding the Montague Paper Company and Keith Paper Company, in that place, he

was one of the organizers of the John Russell Cutlery Company and the Crocker National Bank, all of which undertakings were carried to a successful completion. He was also largely interested in other undertakings, principally in New England, among them the Winnipisiogee Paper Company, at Franklin, New Hampshire, and the Russell Paper Company, at Lawrence, Mass., of both of which he was President for many years, and several other mills, to all of which he devoted the untiring energy and steadfast endeavor characteristic of the man.

He came to Brooklyn to reside in the year 1846. He was, till the time of his death, a prominent member of the Church of the Pilgrims, and always gave liberally of his means to the different charitable organizations and educational institutions of the city.

As a man, he was of a quiet disposition, obtaining a degree of pleasure and enjoyment in his home circle which others are accustomed to seek vainly in public life. He was remarkable for his fine judgment in selecting skillful workmen or men to fill positions of trust; and, in times of financial uncertainty, his practical expenditure of time and means were often more helpful than the pleasurable theories often advanced by others of less characteristic decision and energy. In the latter years of his life he suffered from a stroke of paralysis, which resulted in his death, at his old homestead at Southport, July 7th, 1881, at the age of 63.

He left a widow and six children—two sons and four daughters. At the time of his death, besides being director and officer in the several large corporations in his own line of business, he was a director of the Bank of North America, the Standard Fire Insurance Co., and the Southport National Bank.



Edgar Buckley



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HENRY C. HULBERT.

HENRY C. HULBERT, at present senior member of the firm of H. C. Hulbert & Co., New York City, and for over 40 years a resident of Brooklyn, is a descendant of Lieutenant Thomas Hulbert (or Hurlbut), the ancestor of the Hurlbut family of Connecticut, and who is said to have been born in England, in 1598, and emigrated to this country in 1630. In 1636, he was an officer of the first company that garrisoned the fort at Saybrook, Conn.; served and was wounded in the Pequot war, and later, settled in Wethersfield, Conn., where he died, about 1673, aged 75 years. From his second son, *John*, born 1638, and who settled in Middletown, Conn., and through his third son, *Ebenezer*, born 1638, and his son, *Ebenezer 2d*,* who died in 1777, and his son, *Amos*, born in 1752, and died at Lee, Mass., in 1835, and his son, *Amos Geer Hulbert*, born in 1799, at Weathersfield, Conn., and now living, at the age of 85, at Lee, Mass., was descended Henry Carleton Hulbert, and two daughters, Maryette, who died at age of 4 years, and Julia, who married Dr. E. Wright, and is now residing at Lee, Mass.

HENRY C. HULBERT was born at Lee, Mass., December 19, 1831, and attended the old Lee Academy until 13 years of age. He then began his mercantile career in his native place by entering the general store of William Taylor. After six months he returned to school at the Lee Academy, where he remained until he was 16 years of age. Early in 1848, he re-entered the store of William Taylor as junior clerk. In May, the same year, he obtained a position in the dry goods store of Plunkett & Hulbert, at Pittsfield, Mass., then accounted the largest dry goods establishment in Berkshire county, where he remained for three years, serving in turn as errand boy, salesman, and, the last year, having been carefully instructed in accounts, acted as book keeper and cashier.

* Ebenezer²d, was a large property-holder and shipping merchant in Chatham, or Portland, Middle Haddam, Conn. He traced back the family to England, and found the true spelling of the name was *Hulbert*. He, at that time, adopted the ancient form, which has been continued by his descendants.

His mother was Cynthia Bassett, a descendant of the family of Bassett and Dymoke, both early settlers of Plymouth Mass., and who migrated from Cape Cod, Mass., to Lon. Mass., about 1775. She was a descendant of Sir William Bassett, who landed at Plymouth, Mass., in 1621. Her mother's maiden name was Harriet (daughter of Sylvanus and Thankful Dymoke, a double Dymoke), as she was very proud of claiming, "a double Dymoke," a descendant of the very ancient and honorable family of Dymoke, in which was vested the hereditary championship of the King and Queen of England.

The office of Royal Champion is a very ancient one. It was instituted by William the Conqueror; and, since 1357, has been attached to the manor of Scrivelsby, then held by the Marmon family. There being no male descendant, a Tournament was held, the Knight to marry Margery, the daughter, and continue the office. Sir John DeDymoke was the fortunate Knight, and his descendants have since held the honorable position to the present time, through some twenty generations. The late Sir Henry Dymoke, Bart., acted at the coronation of William the IV. and Queen Victoria.

The office is attached to the Lord of the Manor of Serlisbury, which is held by the ancient tenure known as "grand serjeantry," in which one holds lands of the King by service. The service is to be the King's Champion. The date of this ceremony is the coronation of the King or Queen. It begins at 11 o'clock, when the Champion dines *cap-a-pie* into Westminster Hall, and by the proclamation of a herald make a challenge that "If any man shall deny the King or Queen's title to the Crown, he is there to defend it," and he throws down his gage. This being done, the King or Queen drink to him and send him a covered gift cup, full of wine, which the Champion drinks, having the right to demand a forfeit.

During the last part of his journey at Zumbilla, he has a great desire to fly, but finds he must work to satisfy his father's anxiety to appear. Besides the effort required to work as heavily as his superiors, see the explanation that only those out of a household possessing enough from his parents' inheritance believe that he should be in one of the stables. To quit the way, he takes out from his pocket what he could do, finding that, together with the assistance of his procuring a situation.

On a stormy day, in February, 1880, having received letters of recommendation and permission to the effect of Cyrus W. Field & Co., and Wm. G. Bennett, he started for New York in search of employment. The first morning was expected by the post Mr. Edward S. Mearns of the firm of E. & S. Mearns, prominent publishers of *Littell's Living Age*, had been to the residence of Cyrus W. Field & Co., about a journey in the paper trade.

I give his introduction to Mr. Bond by Mr. May, and the presentation of his letters, Mr. Bond, with his characteristic politeness and courtesy, said: "I have the great pleasure of knowing your father. You are of good stock, and I trust good New York politicians, some of them."

The first that Paul H. Hammer, as well as Mr. Frohman, saw with Mr. May, was presented to the other at 200 N. 4th street, then a boarding house, at the same address, when a few minutes' conversation, by way of request to call at 18 N. Prompt to the minute he entered the office, and, through the acquaintance which existed, Mr. Sweeney asked him, "What is your intention in coming to New York?" "The study was prominently made," if you give me guidance in my theme," entered he, and he would be sorry that you were just that he interest in your success." Placed with the stage-writer honestly and straightforwardly, he made him a proposition to come from a salary of \$100 per annum.

He returned the next day to Lee, consulted with his father, accepted the position, and, after arranging his affairs, at Pittsburgh, on March 11, 1867, sent \$100,000, from his father, and \$8,000 from his mother, with a hearty request that if he needed money, at any time, he need go and ask for it, and that he would be sure to send him the money he needed. He was a faithful, energetic, and successful business man, and if industry and perseverance will accomplish it, I sincerely believe that he would have been a very popular and successful capitalist. He died at Philadelphia, on March 11, 1890, at the age of 60, in his attic bed-room, with only one lamp, and there he is buried, and his body is well preserved. He was a very successful business man, and his success was due to his industry and perseverance.

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By Thursday, the news from the health-care staff looked much more bleak, and the two men discussed just how what

to keep up the work and get out the semi-annual account of sales. Young Hulbert, hearing the conversation, volunteered to do the work. His offer was received with incredulity at first; the idea that the youngest boy could fill the place of the highest salaried man in their employ seemed almost nothing better could be done, he was bid to try and see what he could do, and, it must be added, he was appointed as book keeper and cashier at Pittsfield. He proved himself competent, and the work was done to the entire satisfaction of all concerned; and from this time on he was looked forward to as most needed by the firm, in selling, buying, negotiating, etc.

Soon after, a misunderstanding having arisen between White & Sheffield and Cyrus W. Field & Co., the feeling ran so high that the latter returned unanswered the letters of the former. Mr. Sheffield directed Mr. Hulbert to take a letter in person to Mr. Field and settle the matter. Entering Mr. Field's office and presenting Mr. Sheffield's letter to Mr. Field, the latter read it and passed it to his partner, who, having read it, returned it to Mr. Field, who, without a word, directed his confidential clerk to return the same to White & Sheffield. Mr. Hulbert, who had hitherto kept silent, suggested at this point that a settlement was no doubt desired by all parties, but that it could never be reached by returning letters unanswered. "Are you empowered to settle this matter," asked Mr. Field, sharply. Mr. Hulbert replied he was, and forthwith entered into the discussion, which resulted in settling the affair to the satisfaction of his employers, and from this time he was entrusted with many matters requiring careful and delicate manipulation. He advanced rapidly in the trust and confidence of his employers, and so valuable did he become, that January 1st, 1855, less than four years from the time he obtained his position as youngest boy, he was given an interest in the profits in lieu of a salary. January 1st, 1856, at the age of 24 years, he was admitted a partner in the concern, the firm name being changed to J. B. Sheffield & Co., thus fulfilling his promise made Mr. Sheffield, in 1851, that he intended to make himself so valuable they would give him an interest in their firm.

September 13th, 1854, at the age of 22 years, Mr. Hulbert was married to Miss Susan R. Cooley (step-daughter of Wm. Porter, Esq., Attorney-at-Law), of Lee, Mass. He was then on a salary of \$1,000 per year and was worth less than \$300, but he had no fear of his ability to furnish a good support. Two years later Mrs. Hulbert became a confirmed invalid, unable to even turn herself in bed, and for three years remained in this most helpless condition, and it was over seven years before she was restored to full health again. The expenses incurred taxed the pluck and resources of the young merchant to the extreme, and though the panic of 1857 swept away a portion of his profits, he managed to preserve his financial credit intact.

During the crisis of 1857 he went West, and rendered important services to his house by making settlements and opening new accounts; his office knowledge enabling him to form a just estimate of the financial condition of his

On January 1, 1858, the term of the co-partnership of J. B. Sheffield & Co. expired, and Mr. Hulbert declined to renew it, although offered fifty per cent. advance on his former interest. In March, 1858, a settlement with J. B. Sheffield & Co. having been effected, he formed a new co-partnership with his cousin, Milan Hulbert, of Boston, as general partner, and Otis Daniell, of the same place, as special partner. The name of the new firm was H. C. & M. Hulbert, its capital was \$40,000, and the principal business it proposed to carry on was the sale of paper makers' supplies, the sale of paper

being only a secondary object. H. C. Hulbert was then only 26 years old. Immediately on the formation of the firm he went to Europe to make connections for purchasing paper-makers' materials, and succeeded in obtaining valuable exclusive agencies, which the house retains at the present day. He returned in October, 1858, and opened a house at 83 John street. Thus began the firm of H. C. & M. Hulbert, which enjoyed a prosperous and honorable career to the time of its dissolution in 1872.

At the time of Lincoln's election Mr. Hulbert was in England, and the news reached Liverpool the day after he had sailed for New York. It was not until the steamship arrived off Sandy Hook, and a pilot had brought some papers on board, that he became aware of the fact. Mrs. Hulbert, who was standing beside him as he glanced over the papers, asked him what was the matter. "Nothing," he replied, "except that there is the biggest kind of a panic in New York." During the crisis of 1857, Cyrus W. Field's partners suspended while he was on the way from Liverpool to this city, and the recollection of that circumstance at this time not unnaturally caused Mr. Hulbert the gravest anxiety. When the ship reached her pier the first representative of his house that he met was a small boy. "Well Johnny," said he, "what is the news?" "Oh, nothing, sir," replied the boy, "except everybody's 'busting.'" "What! have we 'busted,' Johnny?" "Oh, no, sir! We ain't that kind." Mr. Hulbert said afterwards that the relief afforded by the boy's answer was inexpressible. Going from the steamer direct to the Astor House, and leaving his wife with the remark that he might not be home until late, he went to his warehouse, and, before leaving, made himself fully acquainted with the exact condition and every detail of the firm's finances, and the next day was at his post planning and arranging the affairs of the firm. The house never, even during the trying times of 1861-62, received any financial aid from its special partner, or asked a financial favor from any of its creditors.

At this time, H. C. & M. Hulbert were doing business with Goodwin & Sheldon, paper-makers, near Hartford. Some of their paper passed into the hands of the old Hartford Bank, which, taking a sudden fit of uneasiness, sent to inquire about the Hulberts, of Leonard Church, who had been president of the Lee Bank, at Lee, Mass., but had afterward removed to Hartford. Mr. Church replied, "I do not know how much money they have; but I know the boys and the stock they come from, and if you have any of their paper that you don't want, I will take it, less interest." The bank, it is needless to add, did not part with the paper.

Goodwin & Sheldon eventually failed, owing, among others, H. C. & M. Hulbert and David Leavitt, well known for years as the president of the American Exchange Bank, who was a connection of Mr. Goodwin. Mr. Hulbert had secured his claim by a special agreement, but when he met Mr. Leavitt in Hartford, for the purpose of effecting a settlement, the latter disputed the validity of this agreement. Mr. Hulbert said he was willing to leave the matter to the decision of their lawyers, so the party adjourned to Mr. Hulbert's room in the hotel, where the legal gentlemen proceeded to argue the question. Mr. Hulbert's lawyer cited a precedent which Mr. Leavitt's lawyer declared was not in a parallel case. The former began to argue that it was a parallel case, when Mr. Hulbert suddenly interrupted him by saying: "Allow me to suggest that you ask one question, and that is, in what respect the parallel does not hold?" His lawyer saw at once the advantage to be gained by pressing that question, and the other side, finding that it was not as easy to demonstrate as to deny, yielded within three minutes. Mr. Hulbert therefore got his money. This transaction greatly pleased Mr. Leavitt,



W. C. C. C.

notwithstanding that he lost money by it; and returning to New York in the same train with Mr. Hulbert, he said: "Hulbert, do you get as much accommodation as you want at the American Exchange Bank?"

"Not always," replied Mr. Hulbert.

"Well," said Mr. Leavitt (who was its former president), "if they don't treat you liberally let me know and I will see you are well cared for."

On May 1, 1861, the firm moved from 84 John street to 13 Beekman street, where it remained for twenty years. On January 1, 1862, Mr. Daniell sold out his interest in the business to the general partners, on the most liberal terms, giving them three years, to pay in installments without requiring any security whatever. Notwithstanding that the firm sustained heavy losses from the panic of 1861, Mr. Daniell received, in addition to his original capital, a handsome share of profits.

On the first of January, 1872, Milan Hulbert withdrew from the firm. H. C. Hulbert then took into partnership Joseph H. Sutphin and George P. Hulbert, and the name of the firm was changed to H. C. Hulbert & Co. Both of these young gentlemen had been clerks in the house from boyhood, and the latter was a cousin of the head of the firm. George P. Hulbert died before the close of 1872, and the other partners have continued under the same firm name. Up to this

date the credit of the house stands as high as ever, and it is in the trade.

Mr. Hulbert died in August, 1880, leaving two daughters, one of whom, Susan C., is the wife of Mr. J. M. Waring. Mr. Hulbert's only property, the famous Morgan Library, Beekman street, was sold in 1880.

Mr. Hulbert was for many years the treasurer of the Brooklyn Industrial School and Home for feeble-minded children, in which the firm took a deep interest. Mr. Hulbert is also one of its advisors.

Mr. Hulbert has personally done a great deal of work to be used in connection with the strongest and best corporations in the country.

He has been for many years a director in the *Manufacture and Trade of National Bank* of New York. He is one of the trustees of the *South Brooklyn Savings Bank*. He is also one of the directors of the *Valley Union Fire Co.*, as well as of several other companies.

January 1, 1880, Mr. Hulbert closed off the career of business, which he had been for thirty-three years and over his family, started on a pleasure trip for England, Egypt, Palestine, Athens, Constantinople and the Continent, returning to New York in September of the same year, 1880, which time he has, so far, been occupied in visiting his friends.

AARON D. FARMER.

AARON D. FARMER.—There are in the United States nearly 10,000 newspapers, and probably twice that number of printing offices for the production of every class of printing, from a business card to an encyclopedia; and in every one of these offices, to every printer employed therein, the name of the firm of Farmer, Little & Co., is as a household word. This house was established in 1810; and, in the early part of this century, was owned by Elihu White, and located at the corner of Lombard and Thames streets, New York.

Aaron D. Farmer, the senior member of the firm now, and for many years past, the owner of this time-honored enterprise, was born in Bolton, Tolland county, Conn., in January, 1816.

In 1830, he came to New York, and entered Elihu White's type foundry, then located as above stated, where his efficiency in the manufacturing department was recognized, and he was made manager of the same. Charles T. White & Co. were the successors of Elihu White, and were superseded, in 1857, by Farmer, Little & Co.

Of the present members of the house it can be said that they are all active workers and practical men in their trade; the senior member of the firm having been for more than half a century continuously connected with the business, to numerous details of which he still gives his personal attention, though past the age

at which a less active man would have relinquished his cares to younger heads and hands.

Mr. Farmer is exceedingly strong and well preserved, mentally and physically, and the enterprise of his younger years, the influence of which contributed not a little to the growth and prosperity of his celebrated house, seems to be unimpaired by the passage of time. He is a Republican in political faith, though in no sense of the term a politician, and has for many years been an attendant upon the services of old St. Anne's church, and a liberal supporter of its various interests. He married Sarah Burns, of New York, and has two daughters and a son. The house, Mr. William W. Farmer, is a member of the firm of Farmer, Little & Co., and from early youth has accustomed himself to the various processes of type manufacture, and is now practically conversant with the entire range of knowledge in this special department; surpassed, perhaps, by his father only, who is often called upon by type foundries of long reputation to be an expert in every other question which, from time to time, arise concerning type and its manufacture.

The firm of Farmer, Little & Co. employ from two hundred to four hundred and seventy-five hands, and make an appropriation of skill and mechanical genius, hammers, galleys, galleys and composing, leading making their own type-setting machines, steel galleys, matrices, and other necessary apparatus to a first-class type foundry.

DANIEL C. ROBBINS.

DANIEL C. ROBBINS, of the well-known firm of McKesson & Robbins, wholesale druggists and manufacturing chemists, was born at Roslyn, New York, in the year 1815. He engaged in the drug business as an assistant in an apothecary establishment in the year 1826, and continued in this pursuit until April 1st, 1833, when an arrangement was made with the firm of Olcott & McKesson, who had commenced the wholesale or jobbing trade in Maiden Lane, New York, in the month of January previous. Mr. Robbins, while engaged in this establishment, continued his studies in pharmacy; and graduating in the New York College of Pharmacy in the year 1836, was admitted into partnership with Charles M. Olcott and John McKesson in the year 1841. The new firm took the title of Olcott, McKesson & Co., and commenced business by purchasing the stock and good will of David Pratt, the successor of the old house of Warren, Pratt & Co.; and in the following year they purchased the premises and building at 127 Maiden Lane, to which they removed on the 1st of May, 1842.

The warehouse, with stock and fixtures, was entirely destroyed by fire on the 2d of July, 1850, but the premises were rebuilt within a few months, and a new partnership established by the same partners, under the firm name of Olcott, McKesson & Robbins.

Mr. Charles M. Olcott, the senior partner, died in August, 1853, and the business was continued by McKesson & Robbins, which has continued to be the firm title of the house. Mr. Geo. B. Gilbert, Mr. Olcott's assistant in the financial department of the business, was admitted as a partner in January, 1854. John McKesson, Jr., was admitted in 1865, William Hull Wickham in 1870, and Charles A. Robbins, son of D. C. Robbins, in 1876, all of whom had been previously connected with the house as assistants in various capacities. To keep pace with the progress of trade, and to meet the requirements of an increasing business, Messrs. McKesson & Robbins built, in 1855, a large business warehouse, which is situated on Fulton street, near William street. The building is a brick structure with a front on Fulton street of 50 feet, and comprises Nos. 79 and 80 Fulton street, and 80, 82 and 84 Ann street, with an area of a little over 50 by 120 feet, with 5 stories in front on Fulton street and 6 stories in the rear on Ann street, with basement and vaults and subcellar, making a total of 50,000 square feet of floor room on the premises.

As this main building in time came to be wholly required for the display of stock and for the execution of orders, the storage of goods was mainly accomplished in three other and separate buildings. From the inconvenience arising from this want of concentration of

stock, and the necessities of an increasing business, the firm built, in 1879, an adjoining building, 50 by 120 feet, thus doubling their former space.

The principal part of this additional extension, 50 by 120 feet, is now occupied by extensive apparatus for the manufacture of chemical and pharmaceutical preparations. In addition to their extensive importing, distributing and manufacturing business, McKesson & Robbins are considerable exporters to Central and South America and the West India Islands, and other foreign countries.

The firm has kept up with the progress of the trade, and with every improvement in the practice of pharmacy, as well as in mercantile business. They have aimed to place themselves at the head of their profession, and their success in these endeavors is generally admitted. They are largely engaged in the manufacture of well-known medicinal and official specialties which are widely used and approved. They were the first to introduce into general use the capsulation of quinine and other medicinal drugs, whereby the prescriptions of physicians have been rendered less obnoxious without interfering with their efficacy; while such a perfect division and combination of materials is effected that every capsule or pill, as these are frequently called, is absolutely certain to contain the actual amount in the formula.

The importance of this can be readily appreciated where active poisons are prescribed, and it has almost revolutionized the dispensing of medicines. In mercantile transactions in the purchase of crude drugs, the same care and foresight has been manifested; and this distinguished house, which is the growth of half a century of steady application and development, possesses superior facilities and a most enviable reputation wherever known. Indeed, it would be difficult to point out any important locality where it is not known, because the drug trade is the least circumscribed of all pursuits. All the most important remedies in the crude or natural form are indigenous to special countries; as, for example, quinine, one of the most important of all remedies, is the product of the cinchona tree, which only grows at a high elevation, while it is the special remedy for the depressing malarial diseases which prevail in low countries. In this connection it may be said that the science and the practice of medicine is similar in all civilized countries, as a constant exchange of remedies and of collective experience takes place. The profession, also, of medicine, while it may not be said to hold a superior place among other professions, is really one of the most important, because it cannot be circumscribed by any future progress. Wars may



May C. Rollins

ease, the practice of law may be greatly limited, and the work of the teacher of the race improved, or the cultivation of its powers become less difficult, and therefore less important; but the province of the physician will never be less needful, for all the great problems of birth and life and death can never be diminished; they can only be more appreciated as civilization advances. Among the truths which pertain to human life, none is better understood among intelligent observers than the fact that as all the savage races disappear when placed in contact with civilized life, the continuance of civilized life is hardly possible without the care of medical science and those sanitary provisions which increase in importance with the increase of population everywhere.

Mr. Rutledge was married, and became a resident of Brooklyn in the year 1841. He has the great fortune to be surrounded with all those attractions which Brooklyn is partly famous as a city of social and literary homes. He is an old and highly respected citizen, and has always evinced a warm interest in the growth and development of the city where he resides. He is a valuable contributor to the literature of his profession, and has earned a degree of learning, experience and literary ability in the improvement of his profession, and in the discussion of commercial questions in which the public is greatly interested, which gives him a deserved reputation in the business circles of the metropolis as well as in the country at large.

LEWIS T. LAZELL.

MR. LEWIS T. LAZELL, senior member of the well-known firm of Lazell, Marsh & Gardiner, wholesale dealers in drugs and druggists' supplies, at No. 10 Gold street, New York, and for many years a resident of Brooklyn, is descended from Huguenot stock, and was born in Bellingham, Massachusetts, February 19, 1825.

The first of the name of Lazell, in America, came to Hingham, Massachusetts, in 1637. The family remained in that State, and many of the name, in successive generations, lived in the vicinity of Hingham, and of Bridgewater. Joshua Lazell, great-grandfather of Lewis T. Lazell, lived at Bellingham, Massachusetts, was a soldier in the American cause in the Revolution, and was at Boston at the time of the battle of Bunker Hill, but is thought not to have participated in that historical engagement.

Joshua Lazell had children named Warren, Daniel, John, Lavinia and Elias. John, one of these, removed to Ohio, and became a judge, and was known as a prominent man in his time. Daniel was a farmer at Bellingham, and was a leader among the Baptists of that locality, long holding the office of deacon of the old Bellingham Baptist Church. He died, leaving children named Warren, Jonathan E., Nathan, Lorinda and Caroline. Jonathan E. Lazell became a Baptist clergyman, and at one time was pastor of the First Baptist Church of Brooklyn. Warren Lazell passed his early life on a farm, and later became a New England schoolmaster. He married Miss Sophia Thurber, and not long afterward, when Lewis T. Lazell, his eldest child, was an infant, removed from Bellingham to Worcester, where he became known as a school teacher, and later as a bookseller.

Lewis T. Lazell was educated in the public schools of Worcester; and, in 1839, at the age of fourteen, became a clerk in the book-store of Clarendon Harris, who is still living, and a highly esteemed resident of that

city. Soon afterward, Warren Lazell became the owner of another book-store; and, in 1842, his son began to assist him in the conduct of his business. He was then seventeen years of age. Two years later he went to Troy, New York, and for a year was employed in a factory there. In 1845, at the age of twenty, he returned to Worcester, where he associated himself with an apothecary named David Scott, Jr., and engaged in the drug trade.

Five years after thus beginning the career in which he was destined to make the business success of his life, Mr. Lazell purchased the interest of his partner, Mr. Scott, and continued the business as sole proprietor until 1855; when he removed to New York, in company with Mr. Edward H. Marsh, a former clerk in his employ, and bought the jobbing trade of Haskell, Merriek & Bull, at No. 10 Gold street, where he has since been located; his partners in the transaction being Mr. Marsh and Mr. Erneau Hunn, a former employé of Messrs. Haskell, Merriek & Bull. Mr. Hunn retired from the firm on account of ill-health, in January, 1860, and died not long afterward. At the date mentioned, Mr. Warren B. Gardiner became a member of the firm, and the house then became known as that of Lazell, Marsh & Gardiner. Mr. Gardiner retired in January, 1881, and the business has since been continued under the same firm name. Mr. Alfred N. Andrus became a partner in the concern in July, 1883. This business, which Mr. Lazell and his associates began on a small scale, has, despite the periods of financial distress through which it has passed, been very successful, and having been enlarged and increased five-fold, the trade of the firm now extends to all parts of the Union.

Politically, Mr. Lazell is a Republican, but the demands of his business for his time are so absorbing upon his time and energies, that he has never had an opportunity to devote more than passing attention to public affairs, though taking the interest of an earnest and

an influential citizen in all questions affecting our national interests and the public prosperity. In religious belief he adheres to the faith of his family, and has been a member, and for twenty-five years a trustee, of the Pierrepont Street Baptist Church of Brooklyn. He married Miss Ellen Stone, second daughter of Daniel Stone, Esq., of Worcester, Massachusetts, and has four daughters.

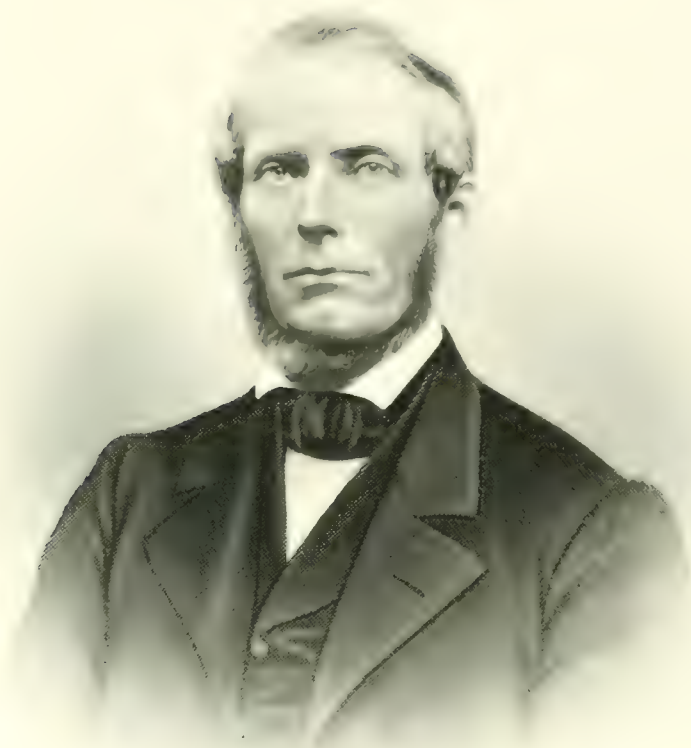
Among sportsmen, Mr. Lazell has a wide and enviable reputation; and he has long been an ardent and in-

defatigable disciple of Isaac Walton, and is recognized as an enthusiastic angler. He was one of the founders of the Ognossoc Angling Association, of Franklin county, Maine; and spends the month of September, each year, fishing amid the solitudes of the Pine Tree State. An earnest, devoted adherent to any cause he espouses, he is regarded by those interested in this club, and by others with whom he has been brought in contact in connection with business, social, religious, charitable or public interests, as at once generous and helpful.

JEREMIAH J. RAPPFLYEA

The subject of this sketch was the youngest child of Folkert Rappelyea and Agnes De Bevoise, his wife. He was born February, 15th, 1813, in the old Rappelyea house, built by his great-grandfather and situated on Cripple Bush Road, Wallabout. He was educated in the small red school-house situated on the same road at a point where Flushing avenue now crosses Lee avenue; and which was the same building in which his uncle and guardian, Gen. Jeremiah Johnson, started a Sunday school in the year 1830, which was the beginning of the famous Lee Avenue Sunday School. In this same red school-house was afterwards held one of the largest and most flourishing public schools in the city, presided over by the late Samuel C. Barnes, and known as No. 4. After receiving a common-school education, he entered the grocery store of Ralph Malbone, which then occupied the point now or lately occupied by the Long Island Savings Bank.

He there became acquainted with most of the prominent down-town people, such as Domonic Johnson, Bergen Stryker, and others. He was employed there some time as clerk, until his guardian thought it better that he should return to the farm, and there he remained until he moved from the old house; being the last Rappelyea who lived there, as it was shortly afterwards torn down on account of its age. During his residence in the old house, he married Ann Pilling. They then moved with their three children to the house he had built on the upper portion of his farm, where he led a quiet farmer's life. He was a member of the Brooklyn Horse Guards, until trouble arose in regard to foreigners in the ranks; when he took sides with the foreigners, Hilliard, Dobson, McLeer, Pilling and others, and helped form the Washington Horse, of which company he was made First Lieutenant, the only public office he ever held. He died May 6th, 1868, in his fifty-fifth year.



SEPTEMBER 1861

HISTORY OF THE MEDICAL PROFESSION OF THE CITY OF BROOKLYN,

1822-1884

By *Frank B. Green, M.D.*

IN pages 414 to 418, we recorded the History of the Medical Profession in Kings County, from its earliest known beginnings to the formation, in 1822, of the *Kings County Medical Society*. We now proceed to trace the history of this Society, and the profession generally, down to the present time.*

Kings County Medical Society.—In 1837 the society ordered three hundred copies of their by-laws printed. It may be stated, in passing, that evidence exists indicating that in 1822, and again in 1829, the society had its constitution printed. At this last date there were thirty-six active members belonging to the society. In 1836 the Code of Ethics of the State Society was adopted, and in 1848 the code of Ethics of the American Medical Association. From its formation, in 1822, till the repeal of that power by the Legislature in 1881, the Kings County Society conferred sixteen licenses to practice medicine.

Among the many men who have belonged, and now belong, to the profession, there are but very few who have violated their faith as physicians and their honor as men. The vast majority have followed their calling in the full spirit of its nobility; have met and combated disease and death without fear and without presumption; and many, far more than can be estimated, have not only given their time and strength in work, in medical charities, but have contributed as well the hard-earned fees obtained from wealthier patients for the relief of pain and suffering in the homes of poverty and woe. Faithfully working in their chosen fields of labor till the hour came for their departure,

they have left but small record of their toil behind them as individuals. In a profession where disease and death are the enemies that must be met, many have contracted the contagion which they were seeking to overcome, and have died in harness. In a business that is not over lucrative, most of its followers have reached their end poor, and left their families without competence. While their individual records are not voluminous, their work in the abstract has small need of a historiographer. The limits of this work render it impossible to mention more than the few of those who, by their abilities either in discovery or by their contributions to medical literature, have become leaders in the profession; but leaders in any cause are useless, unless sustained by the rank and file; while *leaders direct, armies fight battles*. Among the few names that may be mentioned is that of

DR. MATHEW WENDELL, first Vice-President and fourth President of the Society. He came to Brooklyn from his birthplace, Albany, having been a student with Dr. Hyde, of Bethlehem, N. Y. He became a Doctor in 1824 and, entering into partnership with Dr. Charles Ball, in, or about 1826, he opened an office at the corner of State and Union streets. The Doctor was a practitioner in the days when Cannel, Jalap and blood-letting prevailed; and, when it is said that he was a conscientious man, a statement may be advanced in the efficacy of that treatment is unnecessary. Dignified, courteous, and with great natural ability, to which he had added by study, he obtained and retained a large practice. For many years he was Health Officer of the city, and, in hours of pestilence, as well as upon, displayed keen executive ability. The end of his life was somewhat sad. He succumbed to the allotted lot of man in some other years. After the long continued strain, his mind had weakened, and he became a devotee to the study of spelling known as "pencil." His end came from cancer of the stomach, in July, 1890.

DR. ADRIAN VANDERVEKE, (L.D.S., F.R.C.S., DOMINION B.), was the first grandson of Jacobus Vanderwerker. He settled in the village in 1805. At an early age he was sent to Erasmus Hall Academy, where he was prepared for college, and, after 16 courses, Columbia College, graduating with a very creditable record in 1816. He studied medicine at the College of Physicians and Surgeons, New York, being among

* MEDICAL SOCIETY OF THE COUNTY OF KINGS, 1822-1881. *Rolls of the Society, 1822-1881.* G. G. Hopkins, M.D., 281 Lafayette Avenue, President. F. L. Colton, M.D., 136 Montague Street, Vice-President. R. M. W. Clark, M.D., 32 Clinton Avenue, Secretary. E. H. Spiller, M.D., 224 1/2 4th Street, Assistant Secretary. J. R. Vanderveke, M.D., 27 Carlton Avenue, Treasurer. T. R. French, M.D., 69 Clinton Avenue, Junior Vice-President. A. Hutchins, M.D., C. Jewett, M.D., J. S. W. 211, M.D., G. R. Foster, M.D., B. F. Westbrook, M.D., *Delegates to the Medical Society of the State at New York, 1882 to 1885.* Drs. J. C. S. Sax, C. A. Hunt, T. R. French, E. N. Chapman, G. G. Hopkins, J. A. M. Cross, S. W. Hunter, J. R. Hunt, J. Byrne, B. F. Westbrook, G. W. Baker, J. S. Pomeroy.

... Dr. Wright Post. He M.D. in Medicine at University of ... graduated as M. D. ... the whole of Kings county. At the organization of the Medical Society, he was elected secretary of that body, and became its seventh president, holding that office during the years 1837-38. It is not unworthy of note that he and Dr. T. W. Henry were the only members of the society, at its organization, who were graduates from a medical college, the other members being licensed by the operation of Asiatic cholera in 1832, Dr. Vanderveer was appointed Health Officer of Flatbush. In 1835 he abandoned general practice and confined himself to a special branch of the profession, contemporaneously with Dr. Sabine, of New York. This, of course, aroused some opposition from his medical brethren; but, persevering in his ideas, he eventually accomplished great success, patients visiting him from all over the country and from abroad. He also received a large number of letters from distinguished English and Continental surgeons and physicians, seeking advice in his speciality, and informing him of the marked success of his method in the cases they had sent to him for treatment. His success was, indeed, remarkable; and it is to be regretted that no record of his cases was kept, and that he never published anything on the subject. With an office at Flatbush and another in Brooklyn, it was almost impossible for him to attend to all who applied to him. Long before office hours, a line of carriages was in waiting in front of his office; and from his Brooklyn office he was seldom able to return until long after midnight. Had he not been possessed of an iron constitution, as well as untiring energy and an indomitable will, he could not have accomplished his work. But twelve years of this labor ended in an attack of paralysis in 1850; and, though he rallied from it, and associated with him his nephew and student, Dr. John R. Vanderveer, yet he was ultimately compelled to relinquish practice entirely. He died July 5, 1857, in his sixty-first year. In 1832, he was medical adviser to the village Board of Health; in 1825, with Rev. Dr. Strong, he organized the Reformed Church Sabbath School; was its superintendent for nearly thirty years, and an elder for many years. He was a thorough Bible student, well versed in theological lore; and especially interested in horticulture, his garden being filled with rare and beautiful plants from all climes. He was a man of remarkable decision, clear intellect and sound judgment.*

Contemporary with Dr. Vanderveer, for many years, was

DR. JOHN BARREA ZABRISKIE, son of Rev. John L. Zabriskie and Sarah Barrea de la Montagnie, born at Greenbush, N. Y., April 20, 1805; removed with his parents, at the age of six, to Millstone, N. J. He was prepared for college by a private tutor; and, when sixteen, entered, as junior, Union College, where his father had been a member of the first class which graduated in 1797. At college he became intimately acquainted with Hon. John A. Lott; and, at the close of his college course, began the study of medicine in the office of Dr. Wm. McKeesick, attending two courses of lectures at the College of Physicians and Surgeons, New York. He became a licentiate of the New Jersey Medical Society in 1827, but not being satisfied with this license, he took a final course of lectures and graduated from the University of Pennsylvania. ... In New York city, but, in 1830, when Dr. Isaac I. Rapelyea moved to Brooklyn, Zabriskie took his place in New Lots, where his peculiar talents, affable manners and remarkable professional skill soon brought him into an extensive practice in the county, although the field was already occupied by eminent physicians.

In 1829, he became a member of the Kings County Medical Society. He held at different times the office of secretary, censor (1832), delegate to the State Medical Society (1830), and president of the County Society in 1839. Deeply engaged as he was in professional duties, he found time to devote to the public weal. In 1847, he was superintendent of the Flatbush School District, which at that time, and till 1852, included the present New Lots; and it was one of his acts that created School District No. 3, embracing the territory of Cypress Hills and East New York. He was a man of peculiarly diversified talent, and his hours of relaxation were devoted to the scientific pursuits of music, botany, horticulture, etc. He was interested in photography, and took pictures by the camera long before it came into general use; he experimented with electricity and galvanism, and left many plaster casts of groups and medallions of his own modelling. He was a frequent contributor to the *American Journal of Medical Sciences* (vol. xii., 1846); early discovered the virtues of *Sanicula Marylandica* in the treatment of chorea (St. Vitus' Dance); was appointed by the Kings County Medical Society to prepare a paper on the "Medical Topography of Kings County" (see *Trans. N. Y. State Med. Soc.*, 1832); was physician in charge of the Kings County Alms-house; member of the Flatbush Board of Health, and a trustee of the Erasmus Hall Academy; an elder in the Reformed Church, and at one time surgeon of the 241st Regiment, N. Y. State Militia. No man in the town was wider known, more generally respected and deeply lamented. He died in his forty-third year (1850), from contagious disease, which he had contracted in his professional labors.*

We have already spoken of Dr. FRANCIS H. DUBOIS, of New Utrecht. In 1832, his son, James E. Dubois, graduated from the New York College of Physicians and Surgeons and joined the father in practice. After his father's death in 1834, James' practice was too large for the attention of one physician, but he continued alone till 1848, when he took Dr. BERIER in partnership. This arrangement lasted but two years, when Dr. Berier's health broke down. In 1850, Dr. JOHN LUDLOW CRANE took the place left vacant, and this last partnership was continued till September, 1856, when it was dissolved by the death of both Dr. Dubois and Dr. Crane, within a few hours of each other, from yellow fever contracted at the bedside of patients in the epidemic of that year. Then followed Dr. CARPENTER, who had removed from Fort Hamilton to New Utrecht. Dr. HUBBARD was the first resident physician at Gravesend, from about 1855 to 1865, when he removed to Red Bank, N. J. Dr. R. L. VAN KLEEK settled at Gravesend in 1863, a recent graduate of the L. I. College Hospital, and has secured the entire confidence of the community. In 1880, Dr. JAMES F. MORGAN came from Jersey City and settled at Sheepshead Bay, and is doing well there. In 1877 or '78 a Dr. GALLUP settled in Gravesend for about two years.

In the name of Dr. GEORGE GILFILLAN, the older residents of Brooklyn will recognize one who was known to all by reputation, and endeared to many by friendship.

* In these sketches we have been indebted to Rev. R. G. STRONG, of Flatbush; and to Dr. P. L. SCHLESER'S "Zabriskie Homestead."

GEORGE GILFILLAN, born in Ireland in 1797, early chose medicine as his field of labor, and began preparation for that study by acquiring a thorough classical education. Ere he could enter the Medical School at Glasgow, however, his father met with such severe business reverses as changed all the family plans. George, with an elder brother, came to America to begin the struggle for sustenance. Still following his predilection for the medical profession, George became a clerk in a drug store, situated on the corner of Sands and Jay streets, determining to remain there until he had accumulated sufficient means to permit study and graduation from the New York College of Physicians and Surgeons. During the cholera epidemic of 1832 the physicians of Brooklyn were too few in number to hopefully combat the disease. Dr. George Gilfillan left the drug store, and though not yet a graduate, joined in the attempt to stay the plague. For his voluntary risk of life in this labor for others he received the public thanks of Drs. Wendell and Ball. His conduct brought him into prominence, and when he graduated two years later he at once entered upon a large practice. At first he located on the corner of Sands and Jay streets, later moving to the corner of Main and York streets, where he continued in practice almost till the close of his life. Dr. Gilfillan was a member of the Kings County Medical Society, and a life member of the Long Island Historical Society. He never married. He died in 1879 at the ripe age of 82 years.

It may not be amiss to pause for a moment and view the field and conditions of medical practice in the Brooklyn of 1841. Remsen street was not open beyond Henry, and but two houses stood near its termination. From the junction of Henry and Remsen streets an unbroken view over cultivated fields could be had as far as Washington street. The settled sections of the city were about Fulton and Catherine ferries. Within this small area the First Presbyterian Church, Dr. Cox's, on Orange street; Second Presbyterian, Dr. Spencer's, on Clinton street; the First Baptist Church, in Nassau street; the First Reformed Church, a little west of the present location; the East Baptist, Dr. E. E. L. Taylor's, then at the corner of Barbarin (Lawrence) and Tillary, and a German church in Henry street, furnished spiritual consolation to the inhabitants; while their physical ills were attended to by Drs. Wendell, George Gilfillan, Rowland Willsher, Van Sinderen, Rapelye, Garrison, Fanning, Hyde, F. W. Osterander, W. G. Hunt, King, Marvine, Mason, Cooke, McClellan and Benjamin. Not a single public building existed, and the total population reached but five and twenty thousand.

CHARLES S. GOODRICH was born in Pittsfield, Mass., in 1802; graduated from the Pittsfield Medical College in 1827, and began practice in Troy, N. Y. Some years later he removed to Brooklyn. In 1847-'48-'49, and again in 1858-'59, he was connected with the Health Department either as Health Officer or President. In 1852 he was appointed United States Consul at Lyons, France, by President Fillmore. On his return to America he again resumed active practice in Brooklyn, and remained engaged in his professional work till the outbreak of the war. He then went to the front as surgeon of 102d Regiment, New York Volunteers, and remained till the close of hostilities. After the war Dr. Goodrich re-

sumed practice, but lived quietly in Brooklyn till his death in 1883. He was a member and at one time vice-president of the New York State Medical Society, but never joined the County Society.

CHARLES E. ISAACS, born in 1811, graduated from the University of Maryland in 1832. Almost his first labor in professional life was the medical escort of the Cherokee tribe of Indians in their transfer across the Mississippi river, to which he was assigned by President Jackson. In 1831 he formed one of fifty candidates who sailed in company to the United States Army Medical Staff. Of the number but six passed the examination, and Dr. Isaacs stood first among the six. He resigned from the service in 1845, and joined with Dr. Wm. H. Van Buren in establishing a private medical school in New York city. In 1847, he began private practice in Youngstown, N. Y., with Dr. T. G. Catlin. Six months later he was appointed Deputy Health Officer of Staten Island, but resigned the position within a month and returned to Dr. Catlin. In 1848 he was chosen Demonstrator of Anatomy to the College of Physicians and Surgeons of New York, a position which he filled to his own honor and the great benefit of the school. In 1857 Dr. Isaacs removed to Brooklyn and there remained till his death in 1860. Shortly thereafter he delivered a course of lectures on surgical anatomy, at the Brooklyn City Hospital, which was received with great favor. He contributed many articles to medical and a few to general literature; one on the "*Structure and Function of the Kidneys*" being translated and republished in France and Germany. He was an active member of the Kings County Medical Society; one of the founders and successively president and vice-president of the N. Y. Pathological Society; an active member of the N. Y. Academy of Medicine, and Consulting Surgeon to the Kings County Hospital. By the profession he was considered "the first living anatomist in the world." Malaria, the seeds of which were sown in his system during his army service, constantly crippled the energy and dimmed the brightness of what would otherwise have been a successful professional life; but it did not diminish the sweetness of his most lovable disposition, nor the charms of a cultivated and refined mind.

DE WITT CLINTON ENOS was born in Madison county, N. Y., in 1820. Obtaining his preliminary education at the De Ruyter Institute, he began the study of medicine with Dr. James Whitford, of De Ruyter, and graduated from the New York College of Physicians and Surgeons in 1841. For a time he practiced in New York City, but removed to Brooklyn in 1849. Dr. Enos was one of the Consulting Surgeons to the Brooklyn City Hospital and held the chair of Anatomy at the Long Island College Hospital. He was a member of the Kings County Medical Society, and was president of that body in 1860. He was also a member of the New York Academy of Medicine and of the N. Y. Pathological Society. He wrote a number of monographs, chiefly on animal anatomy. His death occurred December 14, 1868, from obstruction of the coronary arteries.

RICHARD CLAYTON SPENCER, of Philadelphia, 1836, took the degree of A.B. at Yale, in 1851, and three years later that of M.D. from the University of Pennsylvania. In Europe he continued his studies for three years longer. On his return to this country he was elected to the chair of Physiology in the University of Vermont, and shortly after to the chair of the President of the University of Vermont. In the spring of 1891 he was elected to the chair of Physiology

of the Kings County Hospital and Surgeons. In 1862 he entered the service of the Government and was assigned to the duties of the public health officer at Pittsburg, Pa. He served with General Hancock's corps in the Army of the Potomac as Surgeon-in-Chief of Caldwell's Division. He held the same position at Brooklyn and was appointed Resident Physician to the Kings County Hospital, which position he held till 1866 when he was appointed at first Registrar of Vital Statistics, and, later, Sanitary Superintendent for the Kings County District of the Metropolitan Health Department. He remained in the Health Office till the Metropolitan Board was abolished by the Legislature of 1870. While there he called public attention particularly to the defective ventilation of Public buildings, such as schools, theaters, etc., and especially to the condition of tenement house hygiene, uniting with Rev. Dr. Bellows, Dr. Elisha Harris, and Dr. Stephen Smith of New York, in the agitation of this subject. Entering with his usual ability into the investigation of the Texas cattle disease, his discovery of the parasite which caused that malady gave him a widespread scientific reputation; and Professor Hallier, of Jena, named the fungus *Coniothecium Stilesianum*, in honor of the discoverer. Like many others, Dr. Stiles overworked himself, and shortly after leaving the Health Department his constitution yielded to the undue strain which had been put upon it. Efforts to relieve his ills proved fruitless, and he died at Chester, in his native State, in 1873, at the untimely age of forty-three years.

N. GERHARD HUTCHISON, M. D., was born in Marshall, Saline county, Mo., June 3d, 1853. He was the son of Dr. Joseph C. Hutchison and Mrs. Susan B. Hutchison of Brooklyn, N. Y. His grandfather, on his father's side, was Dr. Nathaniel Hutchison, of Booneville, Mo., and on his mother's side, the Rev. Amzi Benedict, whose wife was the daughter of Gen. Solomon Cowles, of Farmington, Conn. His preparatory studies were pursued in the Brooklyn Polytechnic Institute, and at Stuttgart, in Germany, where he was fitted for, and entered into, the Real Schule. After his return, in 1871, he was a private pupil of Prof. Plympton, of the Polytechnic Institute, and in 1872 he began the study of medicine in his father's office.

In the spring of 1873, he attended the course of lectures given in the Long Island College, and in the autumn of that year entered the College of Physicians and Surgeons in New York, where he graduated in 1875, and received his diploma of Doctor of Medicine. After graduation he was for a short period one of the Assistant Physicians in Kings County Hospital, at Flatbush, L. I. He, also, in 1874, made two voyages, as an assistant surgeon, on board of one of the steamers of the White Star Line, from New York to Liverpool.

In the summer of 1875, he opened an office in Brooklyn, and began the practice of medicine. He was soon appointed Attending Surgeon to the Brooklyn Orthopedic Infirmary, Assistant Surgeon to St. Peter's Hospital, and also Assistant Surgeon to the Twenty-third Regiment.

His success as a practitioner was speedily assured. He evinced great enthusiasm for the profession of his choice; gave himself to the study of his cases; published a very creditable essay upon one of them, and was distinguishing himself by energy and fidelity.

His last patient was a child suffering from diphtheria, upon whom he performed the operation of tracheotomy. He bestowed upon the case constant attention, and was unremitting in his watchfulness night and day. Contracting the disease, however, himself, he experienced it in its most aggravated form; and after four days of intense

suffering, he died on the 10th day of April, 1877. Just before the last, he called for tracheotomy, in the last words he ever spoke, and it was performed for him by Dr. Rushmore, in the hope of affording him temporary relief.

The funeral services, held at his father's residence, on the 12th of April, were conducted by his pastor, the Rev. Wm. Ives Budington, D. D.; and the interment took place in Greenwood on the same day.

His grave is on Southwood avenue, at the intersection of Oakwood and Dell avenues. The headstone bears the inscription, "Faithful unto death."

CHARLES H. GIBERSON was born at Bath, New Brunswick, in 1838. He studied at the country school at his home; later at the Florence school at Woodstock, the Seminary at Fredericton, and the training school at St. Johns. At the age of sixteen years he was engaged in teaching, and continued that occupation at intervals during his studies. In 1857, he began the study of dentistry, and received a diploma from a Boston dental college.

Having long been interested in medical science, he began the study of that subject with Dr. Hiram Dow, of Fredericton, and graduated from the University of Vermont in the spring of 1861. On coming to New York to continue his studies, he was appointed one of the staff of Charity Hospital, and served in that institution till his appointment as Assistant Surgeon in the United States Navy in October, 1861. Dr. Giberson remained in the navy seven years, serving through the civil war, during three years of which he was with Farragut's squadron on the Mississippi.

In November, 1868, he resigned his position and began the practice of his profession in Brooklyn. For a time, Dr. Giberson served in the out-door department of the Long Island College Hospital, and subsequently, for several years, on the surgical staff of St. Mary's Hospital for Women. In 1876, he was appointed Attending Surgeon to the Brooklyn City Hospital, and held that position till his death. He was one of the founders, the first president, and many years Secretary of the Brooklyn Pathological Society, and the first meeting of that body was held in his office.

In 1872, he was orator of the Kings County Medical Society at its semi-centennial anniversary. For four years he was delegate from the Kings County Medical Society to the New York State Medical Society, and in 1878 was elected a permanent member of the latter. He contributed many articles to medical literature, on both surgical and medical topics.

On the evening of April 14, 1879, he was stricken with peritonitis, and died from that disease five days later.

It is not alone, however, by the labors of its individual members that the Kings County Society has progressed in the nobler duties of an advancing profession. As a body, it has accomplished much for the furtherance of scientific aims and charitable deeds.

The Society's Medical Library and Publications.—In September 1867, a committee, composed of Drs. C. L. Mitchell, J. C. Hutchison, J. T. Conkling, S. Fleet Speir and W. W. Reese, reported a resolution favoring the creation of a public reference library of medical literature, by the purchase of standard medical works, on condition that the Long Island Historical Society add a similar amount to the fund and assume the charge of the nucleus thus formed—physicians desirous of availing themselves of its benefits

to become members of the society. Through the efforts mainly of Drs. Enos, Mitchell and Reese, this plan was adopted. \$1,000 was collected and, with a similar amount from the Historical Society, expended in the purchase of medical works. In 1869, Mrs. D. C. Enos, the widow of Dr. De Witt C. Enos, who had died suddenly at the close of 1868, gave her late husband's library, consisting of 815 bound and 74 unbound volumes, together with a number of pamphlets to the Medical Department of the library, which by 1870, had increased to 1570 volumes. Apart from this collection, the Society had for years held some books as the nucleus of a free medical library; but the effort to increase the number was not pushed with vigor, till four or five years ago. At that time the work was begun in earnest; subscription lists were circulated among the members for their aid; the appeal was generously answered, and a goodly number of books and journals were bought. In 1878, Dr. Samuel Hart gave his library to the Society, and added materially to the collection. The exchange list of the *Proceedings* is also of excellent aid; the most valuable medical journals are constantly on file and open for reference to members of the society, and are in constantly increasing use by a large number of readers.

Another of the Society's methods of advancing medical thought is the monthly publication of the papers read and discussed in that body. This work was agitated by some of the most active members as early as 1875, and took form by the issue of the first number of the *Proceedings* in March, 1879. From the start, its circulation has been 1,000 copies, and its exchange list now numbers 122 journals. On March 3d, 1870, a party of medical men met at the office of one of their number, to consider the advisability of organizing a Pathological Society. With the idea of securing the co-operation of the Kings County Medical Society, the then President of that organization, Dr. R. C. Stiles, was requested to announce the intention at the next regular meeting and to invite all interested to join in a meeting to be held in the rooms of the Board of Health, then in the County Court-house on March 22, 1870. Eleven physicians met on the 22d, and resolved to organize as the *Pathological Section of the Medical Society*. The meetings of the Society were held in various places; at the office of Dr. Charles Giberson, one of its founders, at Dr. R. C. Stiles' office, and later at the Eye and Ear Hospital. Its transactions were at first published in the *N. Y. Medical Journal*; for a time after its origin they were published in the *Proceedings*; then for a time they had no regular publication; but at present are again published in the *Proceedings*. The section now has a membership of eighty and a fine pathological museum which is stored in the Long Island College Hospital. *The Annals of Anatomy and Surgery* is a monthly journal, devoted to Surgery and Surgical Anatomy, edited and published by Drs. L. S. Pilcher

and G. R. Fowler. It was established under the title of *The Annals of the Anatomical and Surgical Society*, in January, 1880, for the purpose of recording the scientific work of the Anatomical and Surgical Society of Brooklyn, an association then active but now nearly defunct; but in 1881 it was transferred to its present editors.

While thus steadily advancing the scientific study of medicine, the Society had found time for other good deeds. On the 24th of April, 1861, it resolved to render gratuitous professional services to the families of volunteers in the service during their absence, and this duty was faithfully observed during the four years that followed, and, to the widows and orphans of volunteers, for a still longer period. After the second battle of Bull Run, a number of the most eminent members of the profession volunteered to go to the front and render the professional services so much needed at that time. When Chicago was swept by the fire of 1871, the Kings County Medical Society raised \$1,338 for the relief of the medical men of that afflicted city, by the voluntary subscriptions of its members; again, in 1878, when many of our southern cities were stricken by the yellow fever epidemic, the society raised \$547 for the relief of the families of medical men who were among its victims. At its foundation, the society had nine members; at the last annual meeting, three hundred and sixty active members, and now nearly four hundred.

The Epidemics which have visited Kings County.—Brief mention has already been made of the early epidemics that brought death to some of the inhabitants and terror to all residents in the County; it remains to dwell more fully on the topic. As early as 1680, small-pox was introduced into the province of New York and swept off many colonists. Time and time again it re-appeared, till, in 1739, the disease was so prevalent that the Provincial Assembly adjourned, first to Greenwich village, and later *sine die*, to avoid spreading the contagion. In 1702 a new disease, described as similar to the plague and believed to have been yellow fever, was brought to New York in a vessel from St. Thomas, and this malady gained such a firm hold, that official action by Governor Geo. Clinton, placing vessels from southern ports in quarantine became necessary in 1743. In 1755 and 1769 a disease called Angina, was prevalent on Long Island. It was not until 1804, however, that a systematic record was kept of epidemic diseases. In that year, yellow fever was introduced into Kings county, the first case occurring on August 22d. Seventeen were stricken with the disease, and of these six died. Again yellow fever gained a hold in the county in 1809. The population of Brooklyn, when its force was spent at that time, was 4,500. The disease lasted during the greater part of three months; twenty-eight died from the fever and none of these exceeded thirty years of age.

A 1823 act of the Board of Trustees of Brooklyn village passed a law imposing a fine of \$25 upon any person who should bring a sick person into the city limits, without a written permit from the President of the Board; or who failed to report to him within a week of his outbreak any sickness of a transient nature within Brooklyn, from August 1st to November 1st. In spite of this, the summer of 1823 brought another outbreak of yellow fever; and, in the population of 10,000, nineteen were taken sick, and ten died of the disease. The year following (1824), the Legislature passed an act establishing a Health Department, and under it, as has already been mentioned, J. G. T. Hunt was appointed Health Officer, at an annual salary of \$300. No epidemic attacked the city from 1823 till 1832. In the latter year, Asiatic cholera made its appearance in the early part of July, and lasted for fourteen weeks, reaching its climax during the third week. The number of deaths from the disease was 274 in a population of 17,000. Cholera occurred again during the summer of 1849, beginning early in June. It lasted seventeen weeks, reaching its climax during the tenth week, and swept off 650, out of a population of 90,000. Once again in 1854, this dread epidemic made its periodical appearance in Brooklyn, the first case occurring on May 29th, in the 5th Ward, at 255 John street. It lasted three and twenty weeks, reached its height on the ninth week, and swept away 678 people out of a population of 150,000. During this epidemic a cholera hospital was opened on Lafayette Avenue, under the charge of Dr. J. C. Hutchison; 170 patients were admitted to it, and of these 97 died. In all these epidemics of cholera, the highest death rate was in adults, between thirty and forty years of age. In 1856, yellow fever again appeared in Kings county, brought probably by infected material thrown overboard from the fever-stricken ships lying at anchor in quarantine, from within a few yards of Long Island, across to the Staten Island shore. Its ravages were confined almost entirely to the 8th Ward and the Bay Ridge Shore to Fort Hamilton; seventy-four people were attacked within the limits of Brooklyn, and of these thirty-nine died. It was in combatting this epidemic, that Drs. Dubois and Crane of New Utrecht lost their lives.

From 1824 to 1866, the Department of Health existed as created by the legislative act of the former year. In 1866, the Metropolitan Health Department was created and Brooklyn was made a district; but this system was too cumbersome to be effective, and it was abolished by the Legislature of 1870. Since that time, the city of Brooklyn has been under the care of its own Health Department in all sanitary matters.

Among the medical men connected with the Health Department since the time of Dr. Hunt, have been Drs. Charles S. Goodrich, Matthew Wandell, T. L. Mason, J. T. Conkling, R. Cresson Stiles, Henry R. Stiles, James Crane, Andrew Otterson, and J. H. Raymond.

Of the *living* physicians who have aided medical progress in this county, only brief mention can be made; and in selecting from the many eminent names the few that can be noticed, we must be guided entirely by the services they have rendered, and the honors they have received.

SAMUEL G. ARMOUR, was born in Washington county, Pa. He graduated from Franklin College, Ohio, in 1839, winning a distinguished competitive honor in that institution, while quite young. He received the title of LL. D., from that institution in 1872. He completed his medical studies at the Missouri Medical College of St. Louis. In 1847, soon after his graduation, he delivered a special course of lectures on Physiology, at the Rush Medical College in Chicago; and, since then has been a professor in the Ohio Medical College of Cincinnati, the Missouri Medical College, the University of Michigan, and now holds the chair of "Principles and Practice of Medicine" at the Long Island College Hospital, of which he is Dean of Faculty. In the course of a busy professional life, Dr. Armour has found leisure to contribute many valuable papers to medical literature, and ranks very high both as a writer, lecturer and practitioner.

DANIEL AYRES, a native of New York, after taking the degree of A. B. at Princeton College, graduated from the Medical Department of the New York University in 1843. After serving a term on the house staff of Bellevue Hospital, he removed to Brooklyn in 1845. He was one of the founders of the Brooklyn City Hospital, and was a visiting surgeon at that institution, from 1846 to 1853. With others he joined in the organization of the Long Island College Hospital, and was, until 1882, Professor of Surgical Pathology and Clinical Surgery there. During the Civil War, Dr. Ayres served as a medical director or corps surgeon. In 1870, he was appointed consulting surgeon to St. Peter's Hospital; and is, at present, one of the incorporators of the Seney Hospital. In 1856, the degree of LL. D. was conferred upon him by Wesleyan University.

ALEXANDER J. C. SKENE was born in Scotland; studied medicine; graduated from the Long Island College Hospital in 1863, and served in the army during the Civil War, and, at its close, returned to Brooklyn and began private practice. Entering upon the field of Gynecology as his special study, he has added much to the literature of that subject, both by monographs and more extended works; and, as one of the visiting physicians and Professor of Gynecology in the Long Island College Hospital, he has given both theoretical and clinical instruction. He was President of the Kings County Medical Society, 1874-'76; he is a member of the New York Academy of Medicine.

CHARLES JEWETT was born in Maine. He was educated at Bowdoin College, receiving his first degree in 1864, and A.M. in 1867. For several years after his graduation, he was engaged in teaching the Physical Sciences at Cooperstown, N.Y. In 1871, he graduated M.D. from the College of Physicians and Surgeons, N. Y., and settled in Brooklyn. He was Professor of Physical Sciences in the Adelphi Academy; has been a large contributor to medical periodicals; President of Kings County Medical Society, 1880-1883; since 1880, Professor of Obstetrics and Diseases of Children, in the Long Island College Hospital, and in charge of the Department of Obstetrics in the same institution; Physician-in-Chief of Department of Children's Diseases in St. Mary's Hospital, and a member of the New York Academy of Medicine.

LEWIS S. PILCHER was born in Michigan. He took the degree of A.B. from the Michigan University, in 1862. Entering the army, he served through the war, and, at its close, entered the Medical Department of the Michigan University, from which he graduated in 1866. The following year he became an assistant surgeon in the U. S. Navy, remaining in the service till 1872, when he resigned, and settled in Brooklyn in private practice. From that time till 1882, he lectured on Anatomy at the Long Island College Hospital. Dr. Pilcher has contributed several monographs to medical literature, his most important articles being on Fractures at the Wrist Joint, Croup and Tracheotomy, and a "Treatise on the Treatment of Wounds." He was appointed, with Dr. Purdy, of New York, to superintend the building of the Seneca Hospital, and is one of the Board of Managers of that institution.

JARVIS S. WIGHT was born in New York. After taking his degree in Arts at Tuft's College, Mass., in 1861, he graduated M.D. from the Long Island College Hospital in 1864. Till the close of the war, he served as an assistant surgeon in the army. Returning to Brooklyn, in 1865, he held, for some time, the chair of *Materia Medica* in the Long Island College Hospital. Later, he became one of the Visiting Surgeons to that institution, and occupied the chair of Surgery and Clinical Surgery. He has contributed many articles to medical journals.

Among the older physicians who have gained prominence in the profession, but of whom space forbids an extended notice, stand the names of JOHN BELL, WM. H. THAYER, C. R. McCLELLAN, L. H. BARBER, and ALAN COCHRAN, of Brooklyn; J. L. ANDREWS, of East New York; H. L. BARTLETT and J. L. ZABRISKIE, of Flatbush; S. J. BRADY, C. H. SCHUPPS, and L. W. PALMER, of the Eastern District, and R. E. VAN GIESON, of Greenpoint. Of these, Dr. Bartlett is Attending Physician to the Penitentiary, and a Consulting Surgeon to the Kings County Hospital; Dr. Brady, a Visiting Surgeon to the Eastern District and St. Catherine's Hospitals, and Dr. Zabriskie, Consulting Physician to the Kings County Hospital. Among those who have been prominent in the Department of Health, stand the names of B. A. SEAR, ANDREW OTTERSON, J. T. CONKLING, JAS. CRANE, and J. H. RAYMOND, as Commissioners, and JAMES WATT, F. H. STUART, and R. M. WYCKOFF, as Registrars.

Dr. A. N. BELL graduated from the Jefferson Medical College, in Philadelphia, in 1842. For many years he was in the Medical Department of the United States Navy. After settling in Brooklyn, he was for a long time a Visiting Physician to the Brooklyn City Hospital. He has been one of the State Quarantine Commissioners, and for some years the editor of the *Sanitarian*.

Among the younger members of the profession who have gained prominence in special work, stand the names of Drs. FRANK W. ROCKWELL and GEO. R. FOWLER, in Surgery. The former is Visiting Surgeon to St. John's, and Chief of Department of Genito-Urinary Surgery at St. Mary's Hospital; the latter Chief of Department of Fractures and Dislocations at St. Mary's Hospital, and the most earnest advocate of antiseptic surgery among our surgeons. In the

field of Nervous Diseases, Drs. L. C. GRAY and JOHN C. SHAW are eminent. Dr. Gray for a long time lectured on this subject at the Long Island College Hospital, and is now Professor of Nervous Diseases at the New York Polytechnic, and Chief of the Department of Mental and Nervous Diseases and Electro-Therapy at St. Mary's Hospital. Dr. Shaw is Superintendent of the Kings County Insane Asylum.

Drs. SAMUEL SHEERWELL and T. R. FERGUSON have focused their attention to Diseases of the Throat and Nose. The former is Visiting Physician to the Brooklyn City and Eye and Ear Hospitals, the latter Consulting Laryngologist at St. Mary's Hospital.

Drs. J. S. PROCTER and A. MATHEWSON were both formerly instrumental in founding the Eye and Ear Hospital, and both are Attending Surgeons to that institution. Dr. Procter was President of the County Medical Society in 1879. Dr. Mathewson is Chief of the Department of Diseases of the Eye and Ear at St. Mary's Hospital. Among those who have taught medical classes, or are still engaged in that work, are Drs. B. F. WESTBROOK, J. A. MCCORKLE, and J. D. RUSHMORE. Dr. Westbrook, for many years, taught Anatomy at the Long Island College Hospital, and is now Chief of Department of Diseases of the Thorax in St. Mary's Hospital. Dr. McCorkle was for many years chemist to the Board of Health, and is now Professor of Materia Medica, and a Visiting Physician to the Long Island College Hospital, while Dr. Rushmore holds the Chair of Surgery in the Long Island College Hospital, and is Attending Surgeon to the Brooklyn City, St. Peter's, and the Eye and Ear Hospitals. All of these men have contributed many articles on their specialties to medical literature.

GEORGE G. HOPKINS graduated from the University of Pennsylvania, 1868. He is Visiting Surgeon to St. John's, and has been recently elected one of the Council, and a Consulting Surgeon to the Long Island College Hospital, and is now President of the Kings County Medical Society.

The following authorities have been consulted: STILES' *History of Brooklyn; Early Settlers of Kings County*, by T. G. BERGEN; *Documents relating to the Colonial History of the State of New York*, and *Documentary History of the State of New York*, by E. B. O'CALLAGHAN; THOMPSON'S *History of Long Island; Minutes of the General Council of Brooklyn; Revolutionary Incidents of Suffolk and Kings Counties*, by HENRY ONDERDONK, Jr.; *Proceedings of the Kings County Medical Society; The Biographical Dictionary of Physicians*; papers by Drs. TONER, HUTCHISON, SCHENCK, and others. Dr. LEWIS S. PILCHER has also rendered as much valuable assistance. Above all, we are under obligations to Dr. R. M. WYCKOFF, who cheerfully gave the use of his valuable notes on the Medical History of the County to assist in this work.

MEDICAL BIOGRAPHIES.

NATHANIEL HUTCHISON, LL.D.

Dr. Hutchison is the professional circles of his adopted city, and is one of the few surgeons whose attainments are generally known. His father, Dr. Nathaniel Hutchison, a native of Virginia, and his mother, Mary Chrisman, a native of Virginia, were residents of Old Franklin, Howard county, Mo., where he was born, February 22, 1827. He graduated from the University of Missouri, and commenced his medical studies at the medical department of the University of Pennsylvania, enjoying, meanwhile, the valuable private instruction of Drs. Gerhard and Peace. Graduating M.D., in 1848, he passed four years in practice in his native state, and, in 1853, came to Brooklyn, where he has since remained, and where he has acquired that reputation which now crowns his long and active career. Of the honors which his profession can confer, Dr. Hutchison has had an ample share. He is a member of the Kings County Medical Society, of which he was President in 1864; of the New York State Medical Society, of which he was President in 1867 and 1868; of the New York Pathological Society, President in 1871; Fellow of the New York Academy of Medicine, and its Vice-President in 1869, 1870 and 1871; an honorary member of the Connecticut and New Jersey State Medical Societies; corresponding member of the Boston Gynecological Society; a delegate from the American Medical Association to the International Medical Congress of 1867, at Paris; and to that of the British Medical Association, at Edinburgh, in 1875; a delegate from the N. Y. State Medical Society to the International Medical Congress of 1876, at Philadelphia; and to that at London, in 1881. He is also an honorary member of the New Jersey State Medical Society; and, in 1880, received the degree of LL.D. from his Alma Mater, the University of Missouri.

The field in which Dr. Hutchison has especially gained his laurels is that of operative surgery, and his record is full of notable cases. During the cholera epidemic of 1854, he was Physician-in-charge of the Brooklyn Cholera Hospital; he has been, since 1857, Surgeon to the Brooklyn City Hospital, and, for a number of years, Surgeon-in-Chief of the Brooklyn Orthopedic Infirmary, of which he was the founder. He is also Consulting Surgeon to the Kings County, St. John's, and St. Peter's Hospitals. In 1854, '55 and '56, he was Lecturer on Diseases of Women in the medical department of the University of the City of New York; from 1860 to 1867, Professor of Operative and Clinical Surgery in the Long Island College Hospital, resigning the chair in the latter year. In 1873, '74 and '75, he was Health Commissioner of the city of Brooklyn, and the confidence with which he is regarded by the members of his profession, causes his opinion and experience to be sought, also, in all matters pertaining to the sanitary and medical interests of the city.

He has been a diligent writer, as well as worker; and, among his more important publications, may be mentioned those on "Dislocation of the Femur into the External Foramen of the Acromion," a "Treatise on Physiology and Hygiene," for school use; "Acupressure," a Prize Essay of the New York State Medical Society; "Lectures on Orthopedic Surgery," delivered at the College of Physicians and Surgeons; and a paper on "The Removal of the Upper Maxillary and Malar Bones, without External

Incision;" "Excision of the Entire Ulna;" "Ligation of the External Iliac Artery, for Femoral Aneurism;" on "Rapid Lithotrity;" on the "Treatment of Femoral Aneurism by Laying Open the Sac" (method of Antyllus), etc., etc.

Dr. Hutchison married, in 1849, Susan H., daughter of Rev. A. and Martha (Cowles) Benedict, of Farmington, Conn. They have had four children, of whom the eldest was N. Gerhard Hutchison, M.D., whose biography will be found on page 890. His death at the very outset of his career, was a great sorrow and loss, both to his parents and his profession; mitigated only by the splendid example which it furnished, of heroic sacrifice to professional duty.

SAMUEL FLEET SPEIR, M.D.

SAMUEL FLEET SPEIR, M.D., a prominent physician of Brooklyn, was born in that city, April 9, 1838. His parents were Robert and Hannah (Fleet) Speir. His father, Robert Speir, was a native of New York, and for many years was successfully engaged in that city in mercantile pursuits; and, having acquired a competence, retired from active business in 1856. His mother, *née* Hannah S. Fleet, was a daughter of Samuel Fleet, who came to Brooklyn from Suffolk county, Long Island, in 1819, and erected what for many years was known as the "Fleet Mansion," located on the corner of Fulton and Gold streets. This homestead has been replaced by a block of substantial stores, which were erected by the "Fleet Estate," and is now in the business centre of the city, which has grown from a population of five thousand in 1819, to over a half a million in 1883 (see engraving, page 895).

Samuel Fleet, the grandfather of S. Fleet Speir, was a lineal descendant, in the fifth generation, from Captain Thomas Fleet, who was the American ancestor of the Fleet family, and who came to this country about 1650, and settled at Northport, near Huntington, Long Island. The English patronymic was Fleetwood, the latter part of the name having been dropped by Captain Thomas Fleet on his arrival in this country. His father was Sir William Fleetwood, an admiral in the English navy, and a person of prominence in his day. A brother of Captain Thomas Fleet (or Fleetwood), *née* Charles Fleetwood, who died at Stoke-Newington, England, in 1692, occupied a large share of public attention during his lifetime. In 1645, he was a member of Parliament, and was one of a body of commissioners, appointed to treat with the king. He subsequently became an adherent of Oliver Cromwell, and took an active and leading part during the days of the Protectorate, both in military and civil affairs. He married for a second wife the widow of Ireton, who was a daughter of Cromwell. Captain Thomas Fleet, previous to coming to this country, was an officer in the British navy and possessed of ample means. He became one of the original patentees of Huntington, Long Island, and greatly increased his fortune after locating at that place. His descendants, mostly natives of Suffolk and Queens counties, are a numerous body, and have during the past two centuries been extensive landholders in these localities.

Samuel Fleet Speir obtained his education at the Polytechnic Institute of Brooklyn, and also under the guidance of a private tutor.

Electing to follow the profession of medicine, he began his studies pertaining thereto in 1857; and, at the same time, matriculated in the Medical Department of the University of



L. L. Mitchell, Esq.



"SEA BREEZE"—NEW UTRECHT, KINGS COUNTY, L. I.—SUMMER RESIDENCE OF DR. S. FLEET SPEER, MONTAGUE STREET, BROOKLYN.



A. G. Cook & Son, M. D.



Dr. Wm. L. Brown, M.D.

New York, from which he was graduated, in 1860, with the highest honors, being the winner of the "Mott Gold Medal" and the "Van Buren Prize." He became also the recipient of the "Wood Prize," of Bellevue Hospital. Desiring to still further perfect himself in the knowledge of his profession, he repaired to Europe, where he spent some eighteen months attending the various hospitals and clinics, thus acquiring much valuable information both in medicine and surgery. The use of Plaster of Paris splints was brought to his notice during this time, and Dr. Speir, recognizing the vast importance of their application to the thousands of the wounded in our War of the Rebellion, then at its height, hastened home, and in the latter part of 1862, at the request of the United States Sanitary Commission, he visited the Army of the Potomac, and for several months, and particularly at the Battle of Seven Pines, rendered valuable service in superintending the applying of Plaster of Paris splints to the wounded, by which their transportation or removal was accomplished with much less suffering and a greater degree of safety.

In 1863, he returned to Brooklyn and entered upon the practice of his profession. The year following he again visited Europe for the purpose of perfecting himself in the departments of ophthalmology and otology. Upon his return, his abilities in these specialties were recognized by the trustees of the Brooklyn Eye and Ear Infirmary, and his services were secured as surgeon to that institution.

A large and increasing practice, both in medicine and surgery, through nearly a quarter of a century, combined with an eager desire and a ready power to keep pace with the wonderful progress which has been made in his profession during this period, has placed Dr. Speir in the foremost rank of practitioners in Brooklyn.

Devoted to his calling, he has, from the period of his entrance to the profession, notwithstanding the labors incidental to a large family practice, found time to contribute to its literature, various papers of note and value. In 1863, his special experience in a number of cases of jaundice caused him to arrive at conclusions at variance with the then accepted theories, pertaining to this sickness. He promulgated these views in a monograph on the "Pathology of Jaundice," and was awarded a gold medal for the same by the American Medical Association, in 1864. In 1871, he contributed, through the *Medical Gazette* of New York, a valuable series of papers on the "Use of the Microscope in the Differential Diagnosis of Morbid Growths," with a new method for determining the diagnosis, prognosis, and treatment of cancers and tumors. The subject was one of much interest, and the views advanced by Dr. Speir in his writings evinced much study and careful research, as also the ability of the thorough adaptation of means to ends.

In this same year, 1871, he introduced to the profession a new method of "arresting surgical hemorrhage by the artery constrictor." This appliance was designed for the instantaneous and hermetic closure of arteries, without the use of ligature, or other foreign substance, being left in the wound. The plans in vogue at that time for the arrest of arterial hemorrhage, were ligature, acupressure and torsion. The method employed and suggested by Dr. Speir, combined the advantages of each of the old methods of procedure, and has proven beneficial where neither of the previous applications could be used equally as well. His essay on this subject secured to him the "Merriitt H. Cash Prize" awarded by the New York State Medical Society. The plan of procedure has also been embodied in the works on surgery of Professors Gross and Hamilton, and also Bryant, of Guy's Hospital, London.

Dr. Speir's learning and skill in his profession has at various times been utilized by his associates, in the procuring of the

services for the several institutions connected with the profession in Brooklyn. He has served as Physician, Curator and Microscopist to the Brooklyn City Hospital, and is at present surgeon of that institution. He has also served as Surgeon to the Tumor and Cancer Department of the Brooklyn City Dispensary. The Long Island College Hospital has employed his services as Demonstrator of Anatomy.

He has been identified with the various societies pertaining to his profession, and is a prominent member of the American Medical Association, of the New York State Medical Society, a member of the New York Pathological Society, Kings County Medical Society, and the New York Medical Journal Association; a fellow of the New York Academy of Medicine, and he was, by invitation, a member of the "International Medical Congress" which was held in Philadelphia in 1876.

Thus, while on the professional side full attainment of intelligence, a ready capacity for business and patient investigation have placed Dr. Speir at the head of his profession, his prudential qualities, liberal, civic and social relations in domestic life; the cultivation, manners and bearing of a gentleman by intuition, render him a favorite in the society of Brooklyn. It is no affectation to say that no member of his profession maintains a more enviable position in that society.

It has been said by a popular French writer, with much truth, "that professions are narrowing; that when too closely followed, they contract instead of expand the intellect; so that outside of professional knowledge many lawyers, physicians and clergymen dwarf their minds by too close confinement to the subtleties and technicalities of their profession." Hence, distinguished professional men of all ages, have liberalized and enlarged their minds by seeking other fields of intellectual culture, and by directing their attention to matters of relaxation from the strain and confinement of their calling.

Dr. Speir seems to take this view of professional life, and relieves the tedium, labor and confinement of his large practice by directing his attention to other studies and other subjects. As one of the outcomes of this, he is the proprietor of one of the most attractive country seats on Long Island. His tasteful cottage, surrounded by a shrubbery that the English naturalist Shenstone might have envied, stands on a gentle elevation overlooking the lower bay of New York, which is said to rival in beauty the Bay of Naples. Further down in the opening ocean is seen the fine beach of Coney Island, with its magnificent structures; while opposite, far over the waters, appears the fertile country of the Jerseys.

Dr. Speir has given his attention largely to the cultivation of domestic and exotic flowers and shrubs. The exotics, nourished and sustained in winter in commodious, well-appointed conservatories, are transferred to his grounds in the latter days of spring, giving them a sort of oriental beauty. As one wanders through these grounds, thus embellished, he can easily imagine himself in some tropical clime almost as delightful as the Hesperides.

Dr. Speir has also devoted his attention to the raising of the rarest species of dogs. In his kennels can be found the finest and most valuable of the canine tribe, some of them being almost priceless. He has also a fine stud of horses, and a choice herd of Alderney cattle; and last, but not least, he cultivates a luxurious vegetable and fruit garden.

In this delightful retreat, Dr. Speir, like Pliny the younger, in his villa on the banks of the Mediterranean, spends much of his time during the heated summer months; although it is distant six or seven miles from his town residence, a pleasant and easy route by rail renders his office readily accessible; his professional arrangements are such that none of his numerous patients are neglected, and his practice is uninterrupted.

Not less a true son is that of his father, quite as pleasant and true as that of the son.

In 1860, Dr. Spurr was married to Frances S., daughter of Peter Hegeman, of New York, with whom his marriage relations have been pleasant and happy.

As a friend, Dr. Spurr is sincere and undeviating; his unpretending manners and fine conversational powers render him an attractive and instructive companion. As a citizen, he is zealous to advance the interests of the community in which he lives.

As he has not yet passed the limits of middle life, with the pleasing surroundings we have described, he has every reason to anticipate a long and prosperous future.

ALEXANDER HUTCHINS, A.M., M.D.

ALEXANDER HUTCHINS, A.M., M.D., was born in New York city, January 24, 1835, and is descended from New England ancestry. After a preliminary course at the Peekskill Academy, he entered Williams College, in 1853, took the Greek oration in the junior year, and graduated with the valedictory honors, August 5, 1857. In 1862, he took the *ad eundem* degree of Master of Arts. He studied medicine in the Harvard Medical School, and received the degree of Doctor of Medicine from the New York Medical College, in 1860. At the same time were awarded to him the Van Arken prize and a special degree in the department of Toxicological Chemistry. On the day after his graduation, Dr. Hutchins was appointed Surgeon of the *Star of the West*, one of the New York, New Orleans and Havana steamers, a position which he held four months. Later, he was appointed House Surgeon in the Blackwell's Island Hospital, and, in 1861, received the appointment of Internist of Bellevue Hospital, New York. In July, 1861, he was commissioned a Surgeon in the United States Navy, and served in the Brooklyn Naval Hospital, on the United States steamship *Wyandotte*, on the *Harriet Lane*, flagship of the Potomac flotilla, and afterward on the *Massachusetts*, supply ship to the Atlantic squadron, till July, 1863, when ill-health rendered his resignation necessary.

August 31, 1863, Dr. Hutchins began private practice at 796 DeKalbavenue, Brooklyn, and soon afterward became a member of the Medical Society of Kings County, and, since 1868, has been continuously connected with it officially, filling the office of President during three successive terms (1876-1878). He was instrumental in founding the *Proceedings*, the official organ of the society, and in establishing the society's reading-room and library. He is Visiting Physician to the Brooklyn Hospital; Consulting Physician to St. Mary's Hospital and the East Brooklyn and Bushwick Dispensary. He became a prominent member of the Medical Society of the State of New York, in 1874, served some years on the committee on by-laws, was awarded the Merritt H. Cash prize for 1875, on "School Hygiene, with reference to the physiological relations of age and sex to mental and physical education," and was elected President of that society in 1883. He is also a member of the American Academy of Medicine. Dr. Hutchins' principal contributions to medical literature have been papers on "Nitrate of Amyl," "Jaborandi," "Apocynum Cannabinum," "Forced Alimentation," "The Parturient Dose of Ferrous and Calcium Salicylate in the Serous Diarrheas of Infants."

The doctor has been connected with St. Matthew's Protestant Episcopal Church since 1863, is Superintendent of its Sunday-School, and a member of its vestry, and for many years has been one of the managers of the Brooklyn Sunday-School Union. He is one of the trustees and the Secretary of the East Brooklyn Savings Bank. He was married, in 1863,

to Mary F. Pelton, of Poughkeepsie, N. Y., and has three daughters and three sons.

DR. HOMER L. BARTLETT.

DR. HOMER L. BARTLETT was born in Jericho, Chittenden county, Vermont. His father's name was Elias. He was a wealthy and highly intelligent New England farmer, and a descendant of Dr. Josiah Bartlett, of Revolutionary memory. His mother's name was Eliza Wheelock, a descendant of the Rev. Eleazar Wheelock, an early missionary to the Indians.

The subject of this sketch received his early education at an academy in his native village, and later at the Academy of Bakersfield, N. Y., then under the care of J. S. Spalding, a most successful and painstaking educator. At school he was noted for his proficiency in mathematics and the natural sciences, and especially for his facility in writing and speaking. In the weekly debates of the "Debating Society" connected with the institution, he was considered one of the foremost champions. He had, in common with most New England youths, been accustomed from his childhood to the practice. His father, being the possessor of large landed property, was anxious that his sons should be farmers like himself, but only the eldest yielded to his wish, Homer and his younger brother, Edwin, both determining to keep up the family name of a "race of doctors." Accordingly, after having acquired sufficient knowledge of the classics to master the technicalities of the profession, he commenced the study of medicine in the office of his early friend and family physician, Dr. J. Hamilton, in his native village. Shortly after this, Dr. Hamilton removing to Albany, N. Y., his student accompanied him, remaining one year; in the meantime attending a course of lectures in the Albany Medical College. He had previously attended a course of medical lectures in the College of Woodstock, Vermont. At the conclusion of his year in Albany, by the advice of his former preceptor, he went to New York and entered the office of Professor Willard Parker, then in the zenith of his splendid career. Here he found ample opportunity for acquiring both the theoretical and practical branches of his profession, and enthusiastically he embraced them. In the winter of 1854-'55, he attended his third course at the College of Physicians and Surgeons, N. Y., and graduated from this admirable institution in 1855, in company with Drs. Henry D. Noyes, George F. Shady, Edward W. Lambert, and other men now prominent in the profession. After his graduation, he received the appointment of Assistant Physician to the Kings County Hospital, in Flatbush, L. I., then under the care of Dr. Thomas Turner, one of the best read and most efficient superintendents that institution has ever possessed. During his term of service, in addition to his usual duties in the Hospital, he, in connection with Dr. D. B. Simmonds—afterwards medical missionary to Japan—arranged a complete anatomical cabinet, besides preserving numerous pathological specimens. Just before the close of his service, he contracted erysipelas of the face and head, which nearly proved fatal, and obliged him to go home for the summer to recruit his strength. In the autumn of 1856, he returned to New York, and, by the advice of Prof. Parker, opened an office in Eighty-sixth street. Here he remained one week, when he was sent for to take the place of Drs. Dubois and Crane, who had just died in New Utrecht of yellow fever. This call coming to him like the voice of God, he did not feel at liberty to decline it. Consequently, without delay or hesitation, he closed his office in Yorkville and removed to New Utrecht, although the fever was still prevalent. There he remained until the following spring, when he removed to Flatbush, where he still resides. On his return to Flatbush, in the spring of 1857, he was made Consulting Physi-



Homer H. Bullitt M.D.



American Bureau of Design - New York

RESIDENCE OF H. L. BAILEY, M.D., AT PLATTSBURGH, N.Y.



J. W. Sturges M.D.

See page 903.



C. H. M. D.



John A. Smith

erian to the Kings County Hospital by the advice of Dr. Turner, which position he still holds. He is also Physician of the Kings County Penitentiary. He organized the Health Board of the town of Flatbush, at which he was Health Officer for twelve years. He was also largely instrumental in securing a Police Board, of which he was the first president. He is a member of the Kings County Medical Society, a permanent member of the American Medical Association, of which he was a delegate to the Medical Congress held in London, August, 1884; and member of the Physicists and Mutual Aid Association. Like many professional men, Dr. Bartlett has carried his researches beyond the strict domain of his professional pursuits. At one time he devoted much time and study to Freemasonry. He was Master of his own Lodge for three years, in the meantime contributing papers and giving lectures on various subjects connected with Masonry.

In literary pursuits, Dr. Bartlett is no tyro. For many years he has been a frequent contributor to the daily papers, as well as to medical journals, and is the author of a series of "Sketches of Long Island," some of them strictly historical, while others are romances from old legends. In 1859, Dr. Bartlett was married to Margaret Strong Scott, daughter of Henry Scott, Esq., of Cooperstown, N. Y., who died in 1856, leaving four children.

Dr. Bartlett's residence in Flatbush, of which we have an engraving, is named "Fennimore" after J. Fennimore Cooper, the novelist, a neighbor and a life-long friend of the Scott family.

DR. CORNELIUS OLCOTT.

DR. CORNELIUS OLCOTT, M. D., a prominent citizen and physician of Brooklyn, N. Y., was born in Jersey City, New Jersey, on the 21st day of January, 1828. He came of an old and honorable English family, members of which in ancient times held high rank under the Crown, and is a lineal descendant of Thomas Olcott, one of the first settlers of Hartford, Conn. It is well known to every one engaged in genealogical research, that much confusion prevailed in early Colonial times as to the orthography of proper names. This confusion, or rather irregularity, was not peculiar to any class, but seems to have been more or less general, for even those two distinguished New Englanders, Endicott and Winthrop, appear to have indulged in more than one style. The present spelling of the name of Olcott, is that which was adopted by the founder of the American family now bearing it; as is sufficiently proved by his autograph, appended to a legal document executed in Hartford, Conn., April 22d, 1650 (and preserved in the Colonial records) and by the initial T. O. on his seal, a wax impression of which, affixed to the will of Timothy Hyde—a grandson of the first Thomas Olcott—was discovered in 1845. According to the learned Col. Henry S. Olcott, the American name Olcott is a more modern form of the English name Alcock, variously spelled by the New England settlers. In the United Kingdom of Great Britain and Ireland there are several families of this name, all of whom bear, as a crest, a cock, in some cases represented as crowing, in others as silent (with the motto *Vigilate*—be watching); probably in allusion to the name, which some say is of Saxon origin and derived from *cald* (German *ald*, alt) meaning old, and *coe*, meaning a male bird. In a work entitled "Derivations of Family Names," by the late Rev. Dr. Wm. Arthur (father of the President of the United States) the name is said to come from *Hal* or *Al*, a nickname for Henry, and *cock*, a designation meaning *little*, or diminutive, the same as *ot* or *kin*; little Hal or Al. The first member of the family of whom a definite account has come down to his descendants, was the

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"Mr. Hooker and I did travel together, and were very successful. Mr. Storer, the Minister, succeeded Mr. Hooker, and with other men of good estates. They got out of England with great difficulty, all places being beland to have taken Mr. Cotton and Mr. Hooker, who had long been sought for, to have been brought into the High Commission."

From our party, about 1750, came one Thomas Mass. Mr. Hooker, being of an independent turn of mind, probably seeking to escape the influence of the Puritan party of that time, and having been driven out of the settlements on the seaboard of Massachusetts, and, in June, 1636, arrived at Plymouth, where he took up his abode, and remained there. According to the records of Plymouth, he took up his abode in the first village in the United States, where were settled the descendants of Thomas Olcott, one of the first settlers of Hartford. Thomas Olcott, from whom sprang the Connecticut branch of the family, was a member of the first company composed of the original settlers at Hartford, then called by the Indians, the *Sauwamuck*. He came from the place of their residence in Massachusetts, and, in February, 1637, changed to Hartford. Col. Olcott, who settled in Hartford, 1637, was a member of the first company.

The sons of Thomas Olcott, who had settled the country, were all men of consideration in the colony. Thomas, the eldest, was admitted a freeman May 20, 1658, and Samuel, the second son, on May 12, 1664. The grandfather of the subject of this sketch was John Easton Olcott (born July 24, 1749), son of Thomas Olcott of Stratford, Conn., and his first wife Sarah Easton, daughter of John Easton of Hartford. He was lineally descended from Thomas Olcott and of the sixth generation of the name in America, and married Hannah Sands of Hempstead, Long Island. For some time after his marriage he resided at Stratford, Conn., but subsequently both he and his wife removed to Cornwall, Conn., where they died. Their oldest son, John Sands Olcott, born in the last-named place, removed to Hudson, N. Y., but subsequently went to Jersey City, then known as Paulus Hook, where he engaged in the manufacture of cordage, and built the first two rope-walks in the State of New Jersey. One of his brothers, Joseph II., located as a planter in Louisiana and died there during the first year of the Civil War. Another brother, Rev. James S. Olcott, was the first ordained clergyman who officiated in Jersey City, and it was through his instrumentality that the first church edifice (Dutch Reformed), was erected in that city. He married Sarah Batcheler, of England, and had nine children—eight sons and one daughter. Sands Olcott, one of these sons, went to New Hope, Penn., and established extensive

manufactories. He was a born inventor, and expended several fortunes in carrying on his plans and experiments. One of his projects, undertaken with the hope of competing with the foreign productions, was a manufacture of linen from flax grown in New Jersey. All the machinery used in this work was of his own invention. At one time he had five large factories in successful operation in New Hope, and also the largest rope-walk in the country. Two of his inventions have become widely known—the "Equalizer," for producing uniformity in thread, used in nearly every cotton factory, and the "Walking Jack," extensively employed in the manufacture of rope.

The youngest of these sons, Dr. CORNELIUS OLCOTT, of Brooklyn, whose portrait appears in connection with this sketch, received his early education at the academies of New Hope, Penn., and Lambertsville, N. J. He returned to Jersey City in 1843, and soon afterwards began the study of medicine. Having finished the prescribed course of training, he was graduated in 1849 at the University of New York, with the diploma of Doctor of Medicine. He established himself in Brooklyn in March of the same year, and devoting himself with great earnestness to perfecting his knowledge of surgery, soon acquired such a mastery of this department as gave him great reputation both with the medical profession and the general public. As a volunteer surgeon he served in the Federal army under McClellan at Fortress Monroe, and under Grant in the Fredericksburgh campaign. Since the war he has devoted himself to general practice in the City of Brooklyn, and has earned a name as a family physician and a surgeon of eminence scarcely second to any other in the State. He is a member of the Kings County Medical Society, and takes a deep interest in all that pertains to his chosen calling. In November, 1874, Dr. Olcott performed with signal success the difficult operation in midwifery, technically known as the "Caesarian section." An account of this surgical operation, *the first successful one of the kind ever reported in Brooklyn or New York*, originally appeared in the *American Journal of Obstetrics and Diseases of Women and Children*, April, 1879. It was subsequently republished in pamphlet form. In surgical cases requiring more than ordinary skill, his services are in continual request by his brothers in the medical profession in Brooklyn and vicinity, and he has performed with marked success nearly all the more difficult operations of the present day.

Dr. Olcott was the original pioneer settler of Greenwood Lake, and it is mainly through his efforts that this beautiful resort has been made what it now is. In 1869, being attracted by the possibilities of the spot, he purchased an extensive tract of land at the lake and built a cottage and began other improvements. The sheet of water now known as Greenwood Lake is partly of artificial construction, some three hundred acres of land having been flooded after having been cleared of trees. At the time Dr. Olcott became a property owner at the lake, the stumps of these trees projected above its surface, but he determined to get rid of these unsightly objects, and having first drained the lake, through the co-operation of President Randolph of the Morris and Essex Canal, he had the objectionable stumps sawed off close to the roots. This undertaking—one of no slight magnitude—was conducted entirely under his supervision and at his own expense.

Observing the success of Dr. Olcott's plan, the Greenwood Lake Railroad Company (which had previously tried in several ways to remove the stumps in another part of the lake), subsequently adopted it, with the happiest effect. The change wrought by this proceeding was remarkable, and the lake, which had heretofore seemed—to the casual ob-

server—to possess no special charm, speedily to be sold for its beauty. In a short time pleasure-seekers and tourists began to be attracted to it; and with a view to its further development, a number of prominent and wealthy citizens of New York and New Jersey originated the Greenwood Lake Association, of which Dr. Olcott became president. The combined efforts of this club resulted in several noteworthy improvements. Besides building an elegant clubhouse at Warwick Woodlands, the Association has stocked the lake with fish; and, with a view to attracting game, has planted wild rice through the swamps and low-lands of the region. The lake, which is 900 feet above tide-level, is situated partly in Orange county, N. Y., and partly in Passaic county, N. J., and the Greenwood Lake Association has secured from the Legislatures of both States game privileges covering an area of nearly 50,000 acres of mountain land. The region is now pronounced one of the most attractive and healthful in the country. Its development has been rapid, and as a select summer resort it gives promise of becoming in time a powerful rival of some of the most noted watering places of the present day. It is due to Dr. Olcott to state that the opening of this region, and the impetus given its development was largely the result of his foresight, enterprise and energy; and that its present condition and future prospects are based upon operations in which he is the moving spirit. One of the recent results of the development of this place has been the founding there of the American Institute of Christian Philosophy, organized to promote the broad and liberal discussion of theological questions; the object being to counteract the effect of the teachings of Spencer, Mill, Huxley, and others.

The President of the Institute is the Rev. Charles F. Johnson of New York city, and Dr. Olcott has been connected with it since its inception. Dr. Olcott possesses a great share of the modest but generally accompanying superior merit. He is a man of broad culture and profound thought, and thoroughly versed in all the important subjects, which, during the last two or three decades have occupied the attention of the ablest thinkers and writers. He is an intelligent patron of the fine arts, and in his elegant home, in one of the most aristocratic parts of Brooklyn, are to be found many beautiful specimens of painting and statuary, some of which are of great value. A man of large heart and kindly sympathies, he is esteemed in the community in which he resides, so much more for his unostentatious character than for his professional learning and skill.

Dr. Olcott married Miss Katherine M. Van Duzer, daughter of James B. Van Duzer, Esq., and Letitia Van Winkle, his wife, of New York. Three children were born to this marriage — Philip Gordon, who died in infancy; Charles Augustus, and Ida Lillian.

Charles Atchison, eldest son of the deceased Father, and was admitted in 1873, at the Western Illinois Medical College, with the degree of Doctor of Medicine. He is now Surgeon to the First Department of Medicine, and is associated with his father in general practice. Miss Ida Lillian Olcott, an accomplished young lady of rare mental qualities, although not adopting literature as a life work, surprised herself at the early age of sixteen by attempting to translate a remarkable Italian novel, *Il Signor di San Giovanni*, from the Italian into English. The result has been a work entitled, *The Signor di San Giovanni*, which has just been published by the American Book Co., New York. Our American readers will soon have the satisfaction of reading the work of the learned Italian author, who complains in his preface to that nation's language, "I have written this book in English."

And given the overall inconsistent and unconvincing evidence for some harmful-sounding forms of human exposure, would that not suggest a precautionary approach? Perhaps the world's best and most documented case of human exposure (fishermen that could have developed all the same or worse lung and even esophageal cancer) toward the chemical community through the port, is the extreme overfishing problem that has become the subject of an entire offshoot journal (<http://www.fishbase.org>).

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QUESTIONS.—DR. D. NORRIS: Has Dr. Wagoner been brought more conspicuously before the public than Dr. Norris?

The American Society of Adult Psychiatry and the American Society of Political and Social Workers have been designated by Division of Special Official Positions, with approval of the U.S. Civil Service Commission, to fill positions as Deputy Assistant Secretaries, whereof positions have been filled by the U.S. Civil Service Commission. The American Society of Adult Psychiatry and the American Society of Political and Social Workers are the only organizations to be so designated. The American Society of Adult Psychiatry is the only organization of writing for the New York Trib and the Brooklyn Daily Eagle. The American Society of Political and Social Workers is the only organization of writing for the New York Trib and the Brooklyn Daily Eagle.

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of St. Patrick's Cathedral, where he enjoyed a decided love of study, and where he

¹ For example, the *Journal of Management* published 111 articles on the business environment in 1998, 140 in 1999, 144 in 2000, 146 in 2001, 147 in 2002, 148 in 2003, 149 in 2004, 150 in 2005, 151 in 2006, 152 in 2007, 153 in 2008, 154 in 2009, 155 in 2010, 156 in 2011, 157 in 2012, 158 in 2013, 159 in 2014, 160 in 2015, 161 in 2016, 162 in 2017, 163 in 2018, 164 in 2019, 165 in 2020, 166 in 2021, 167 in 2022, 168 in 2023, 169 in 2024, 170 in 2025, 171 in 2026, 172 in 2027, 173 in 2028, 174 in 2029, 175 in 2030, 176 in 2031, 177 in 2032, 178 in 2033, 179 in 2034, 180 in 2035, 181 in 2036, 182 in 2037, 183 in 2038, 184 in 2039, 185 in 2040, 186 in 2041, 187 in 2042, 188 in 2043, 189 in 2044, 190 in 2045, 191 in 2046, 192 in 2047, 193 in 2048, 194 in 2049, 195 in 2050, 196 in 2051, 197 in 2052, 198 in 2053, 199 in 2054, 200 in 2055, 201 in 2056, 202 in 2057, 203 in 2058, 204 in 2059, 205 in 2060, 206 in 2061, 207 in 2062, 208 in 2063, 209 in 2064, 210 in 2065, 211 in 2066, 212 in 2067, 213 in 2068, 214 in 2069, 215 in 2070, 216 in 2071, 217 in 2072, 218 in 2073, 219 in 2074, 220 in 2075, 221 in 2076, 222 in 2077, 223 in 2078, 224 in 2079, 225 in 2080, 226 in 2081, 227 in 2082, 228 in 2083, 229 in 2084, 230 in 2085, 231 in 2086, 232 in 2087, 233 in 2088, 234 in 2089, 235 in 2090, 236 in 2091, 237 in 2092, 238 in 2093, 239 in 2094, 240 in 2095, 241 in 2096, 242 in 2097, 243 in 2098, 244 in 2099, 245 in 2100, 246 in 2101, 247 in 2102, 248 in 2103, 249 in 2104, 250 in 2105, 251 in 2106, 252 in 2107, 253 in 2108, 254 in 2109, 255 in 2110, 256 in 2111, 257 in 2112, 258 in 2113, 259 in 2114, 260 in 2115, 261 in 2116, 262 in 2117, 263 in 2118, 264 in 2119, 265 in 2120, 266 in 2121, 267 in 2122, 268 in 2123, 269 in 2124, 270 in 2125, 271 in 2126, 272 in 2127, 273 in 2128, 274 in 2129, 275 in 2130, 276 in 2131, 277 in 2132, 278 in 2133, 279 in 2134, 280 in 2135, 281 in 2136, 282 in 2137, 283 in 2138, 284 in 2139, 285 in 2140, 286 in 2141, 287 in 2142, 288 in 2143, 289 in 2144, 290 in 2145, 291 in 2146, 292 in 2147, 293 in 2148, 294 in 2149, 295 in 2150, 296 in 2151, 297 in 2152, 298 in 2153, 299 in 2154, 300 in 2155, 301 in 2156, 302 in 2157, 303 in 2158, 304 in 2159, 305 in 2160, 306 in 2161, 307 in 2162, 308 in 2163, 309 in 2164, 310 in 2165, 311 in 2166, 312 in 2167, 313 in 2168, 314 in 2169, 315 in 2170, 316 in 2171, 317 in 2172, 318 in 2173, 319 in 2174, 320 in 2175, 321 in 2176, 322 in 2177, 323 in 2178, 324 in 2179, 325 in 2180, 326 in 2181, 327 in 2182, 328 in 2183, 329 in 2184, 330 in 2185, 331 in 2186, 332 in 2187, 333 in 2188, 334 in 2189, 335 in 2190, 336 in 2191, 337 in 2192, 338 in 2193, 339 in 2194, 340 in 2195, 341 in 2196, 342 in 2197, 343 in 2198, 344 in 2199, 345 in 2200, 346 in 2201, 347 in 2202, 348 in 2203, 349 in 2204, 350 in 2205, 351 in 2206, 352 in 2207, 353 in 2208, 354 in 2209, 355 in 2210, 356 in 2211, 357 in 2212, 358 in 2213, 359 in 2214, 360 in 2215, 361 in 2216, 362 in 2217, 363 in 2218, 364 in 2219, 365 in 2220, 366 in 2221, 367 in 2222, 368 in 2223, 369 in 2224, 370 in 2225, 371 in 2226, 372 in 2227, 373 in 2228, 374 in 2229, 375 in 2230, 376 in 2231, 377 in 2232, 378 in 2233, 379 in 2234, 380 in 2235, 381 in 2236, 382 in 2237, 383 in 2238, 384 in 2239, 385 in 2240, 386 in 2241, 387 in 2242, 388 in 2243, 389 in 2244, 390 in 2245, 391 in 2246, 392 in 2247, 393 in 2248, 394 in 2249, 395 in 2250, 396 in 2251, 397 in 2252, 398 in 2253, 399 in 2254, 400 in 2255, 401 in 2256, 402 in 2257, 403 in 2258, 404 in 2259, 405 in 2260, 406 in 2261, 407 in 2262, 408 in 2263, 409 in 2264, 410 in 2265, 411 in 2266, 412 in 2267, 413 in 2268, 414 in 2269, 415 in 2270, 416 in 2271, 417 in 2272, 418 in 2273, 419 in 2274, 420 in 2275, 421 in 2276, 422 in 2277, 423 in 2278, 424 in 2279, 425 in 2280, 426 in 2281, 427 in 2282, 428 in 2283, 429 in 2284, 430 in 2285, 431 in 2286, 432 in 2287, 433 in 2288, 434 in 2289, 435 in 2290, 436 in 2291, 437 in 2292, 438 in 2293, 439 in 2294, 440 in 2295, 441 in 2296, 442 in 2297, 443 in 2298, 444 in 2299, 445 in 2300, 446 in 2301, 447 in 2302, 448 in 2303, 449 in 2304, 450 in 2305, 451 in 2306, 452 in 2307, 453 in 2308, 454 in 2309, 455 in 2310, 456 in 2311, 457 in 2312, 458 in 2313, 459 in 2314, 460 in 2315, 461 in 2316, 462 in 2317, 463 in 2318, 464 in 2319, 465 in 2320, 466 in 2321, 467 in 2322, 468 in 2323, 469 in 2324, 470 in 2325, 471 in 2326, 472 in 2327, 473 in 2328, 474 in 2329, 475 in 2330, 476 in 2331, 477 in 2332, 478 in 2333, 479 in 2334, 480 in 2335, 481 in 2336, 482 in 2337, 483 in 2338, 484 in 2339, 485 in 2340, 486 in 2341, 487 in 2342, 488 in 2343, 489 in 2344, 490 in 2345, 491 in 2346, 492 in 2347, 493 in 2348, 494 in 2349, 495 in 2350, 496 in 2351, 497 in 2352, 498 in 2353, 499 in 2354, 500 in 2355, 501 in 2356, 502 in 2357, 503 in 2358, 504 in 2359, 505 in 2360, 506 in 2361, 507 in 2362, 508 in 2363, 509 in 2364, 510 in 2365, 511 in 2366, 512 in 2367



Thomas P. Norris, M.D.

devoted himself to them so intensely that his health became impaired, and he was compelled to resign; after which he went to Brooklyn, the home of his wife. Not long after this she died. Her death was soon after followed by that of his mother.

He was prosperous and successful in his profession, and had attained a position so eminent, and an influence as a practitioner and as a citizen so extensive, that he was appointed to superintend the Marshals in taking the United States Census for Kings county, a trust which he discharged so satisfactorily that he received the thanks of United States Superintendent Kennedy. It was during the discharge of these duties that he first exhibited his rare statistical abilities, in compiling numerous tables of statistics relating to the various interests of Kings county. These were apart from the regular tables, and have often been referred to as matters of authority. Dr. Stiles, in his valuable History of Brooklyn, embodied many of these tables in his work. These productions were published in most of the leading journals. Their merits were so thoroughly appreciated that they brought Dr. Norris prominently and favorably before the public.

To use the language of the *Brooklyn Eagle*, "Dr. Norris is a able and accomplished statistician. He knows all about Brooklyn, and can describe almost everything it contains; indeed, he has done so." The *Eagle* might have said the same of Dr. Norris as related to the city of New York.

He was nominated by the Unionists for Coroner and elected by a large majority. In the discharge of the duties of this office he exhibited such high professional abilities, united with so much judicial acumen, that he soon stood prominent among the coroners of the state. There were several terrible accidents within his jurisdiction, the investigation of

which required the highest abilities and learning. Among these was the explosion of the United States gunboat "Chenango," in April, 1864, while on her trial trip, whereby thirty persons lost their lives. The investigation of this explosion before Coroner Norris, was long, close and interesting. It involved the consideration of many abstruse, scientific questions. The charge of Dr. Norris to the jury was one of the ablest and most exhaustive judicial and scientific productions on record. It was subsequently published, with the other proceedings, by Messrs. Hurd & Houghton, of New York, in book form, finding a welcome place in the best law and scientific libraries in the state and nation. The inquiry into another terrible explosion—that of a coal-oil still, led to another long and interesting investigation before Dr. Norris, as coroner, which for a long time attracted public interest.

In 1874, he was, without any previous knowledge or solicitation on his part, nominated and elected Commissioner of Charities for Kings County to fill an unexpired term of one year; he was afterwards elected for the full term of three years.

Dr. Norris brought to this office most admirable qualifications, rendered practical and profitable by the administration of his duties as Coroner. During the time he held this office, \$200,000 a year was saved to the county. Subsequently, he successfully engaged in an effort to improve the condition of the insane of the county. His labors in that direction aroused much public attention, and were highly commended by the press and the people.

In the fall of 1874, Dr. Norris was elected Superintendent of the Poor of Kings County, entering upon his duties January 1, 1875, and discharging the duties of that office during the



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years 1875, '76 and '77. He took an important part in the Convention of the Superintendents of the Poor held at Poughkeepsie, June 8th and 9th, 1875; in that held at Saratoga, June 13th and 14th, 1876; and in that held at Binghamton, June 12th and 13th, 1877. His speech at the Convention at Poughkeepsie, on the subject of "Outdoor Relief to the Poor," was highly commended. He was elected Chairman of the Convention held at Binghamton, June, 1877. The records of those conventions bear creditable evidence of Dr. Norris' ability as a parliamentarian. We have already alluded to him as a writer, to which we may add that his productions are numerous, and are read with avidity and profit.

As Dr. Norris is comparatively a young man; his experience, his learning, his well-matured mind and the esteem in which he is held by the citizens of Brooklyn, give promise of future usefulness and distinction.

DR. GEORGE WACKERHAGEN.

DR. GEORGE WACKERHAGEN was born at Albany, N. Y., October 28th, 1845. The name of Wackerhagen consists of two German words, "Wacker," vigorous, brave; and "hagen," to hedge, or a hedge. His father was George Augustus Gerard Wackerhagen, a native of Hanover, Germany, and a nephew of Rev. Dr. Augustus Wackerhagen, a distinguished scholar and minister of the Evangelical Lutheran Church.

The genealogy of the Wackerhagen family can be easily traced back several hundred years, forming an interesting history for the various high public official positions in church and state which its members have held. The Wackerhagen domain at one time composed a portion of what is now the city of Hanover, Germany. Dr. Wackerhagen's grandfather, Charles Wackerhagen, was engaged in diplomatic services, and later was Postmaster-General of Harborg. The doctor's great-uncle, George Wackerhagen, for whom he was named, was a distinguished character in Germany. He was born in 1778, and when 14 years of age he entered the Hanoverian Army as a cadet; he was engaged in active service in Flanders for nine years; was captured by the French in 1801; after his release he entered the University of Gottingen, where he completed his studies. He afterwards entered the Anglo-German Legion which formed a part of the English army in Spain. This Legion was under the command of the celebrated Sir John Moore. He entered this service with the rank of Captain and was soon promoted to Major. He was a personal friend of the Duke of Wellington. At the siege of Bayonne he commanded a battalion of German and English. During the siege, the French broke out of their works, attacking his position; but, in spite of their repeated attacks, he maintained his position until the enemy were largely re-enforced, and Major Wackerhagen being left almost alone, and severely wounded in two places, ordered the remainder of his troops to retire, and sank senseless to the ground. The enemy, seeing their object was unattainable, retired, taking with them a few prisoners, among whom was Major Wackerhagen. After his discharge from captivity, he was promoted to the rank of Lieut.-Colonel, and his subsequent history was honorable and distinguished.

When old enough, Dr. Wackerhagen entered Trinity School on the Hudson, where he obtained a thorough practical education. Early in life he had evinced a decided love for the study of medicine. On completing his classical studies he immediately commenced preparing to enter a profession for which he seemed by nature especially qualified. We find him giving his attention to the study of medicine at the early age of fifteen. While pursuing it, the rebellion

broke out, and the young student, armed with a gun and a pair of pistols, enlisted as a private in the U. S. A. The Rebellion had scarcely begun in earnest, when Dr. Wackerhagen, a well-drilled, brave and competent soldier. In his first engagement, the Battle of the Clouds near Washington, he longed began to retreat, when he, by his bravery and presence of mind, arrested the flight of his fellow soldiers, in order, and in due time they captured the breastworks from behind which the rebels were pouring a destructive fire. A number of prisoners taken by the regiment added laurels to its laurels and to those of young Wackerhagen. He was then sent to the General Hospital at Washington, where he remained for a short time, when he was sent to the General Hospital at Baton Rouge, where he continued the study of medicine with such success that upon examination he was considered entirely competent for hospital steward in the regular U. S. Army, to which place he was duly appointed by the Secretary of War. In 1866, desirous of attending medical lectures, he tendered his resignation, which was accepted, and he took his first course of lectures at the University of the City of New York. He pursued his studies and attended lectures until 1869, when he graduated at the College of Physicians and Surgeons, and entered at once upon active practice in the city of Brooklyn, where he has continued down to the present time. His success was assured from the beginning of his medical career, and though still a young man, he has made his way to the front rank of his profession in surgery.

Dr. Wackerhagen is an able, thoughtful and vigorous writer, and has largely enriched the literature and learning of his profession with the productions of his pen.

The following are among his contributions to the *New York Medical Journal*, which gained for their writer much credit in and out of the profession: "Case of Posterior Angular Curvature of the Spine, with Paralysis of the Lower Extremities, complicated with Permanent Muscular Contractions." This appeared in August, 1874. In October, 1874, he contributed an article on "A New Method of Applying Plaster of Paris for Fracture of the Bones of the Leg." This was his own discovery and has proved eminently successful.

Another communication, contributed by him to that journal appeared in the September number, entitled, "An Improved Method of Obtaining Support for Fractured Bones of the Extremities."

In January, 1875, there appeared in the *New York Medical Journal* an able and thoughtful article from the pen of Dr. Wackerhagen on "Free Incisions, with Drainage-Tube, *vs.* Paracentesis, in the Treatment of Pyothorax." Many cases are referred to in this article which came under the doctor's own observation.

In November, 1875, he wrote an article entitled, "A Combined and Improved Method of Obtaining Support for Fractured Bones in the Form of a Continuous Roller," for the same journal. In April, 1881, he read a paper before the *Edinburgh Medical Society*, entitled, "A New Method of Surgery: Ligation of Femoral Artery for Popliteal Aneurism." *Transactions of the Edinburgh Medical Society*, Vol. 1, 1881, highly commended.

Since 1871 he has published in the *Continental Medical Journal* many articles, and his pen. In October, 1872, Dr. Wackerhagen invented an improved method of obtaining support for fractured bones, and published it in the *Continental Medical Journal*, Vol. 1, 1872, highly commended.

In 1873, he published in the *Continental Medical Journal*, Vol. 2, 1873, an article on "A New Method of Surgery: Ligation of Femoral Artery for Popliteal Aneurism." *Transactions of the Edinburgh Medical Society*, Vol. 1, 1881, highly commended.

Dr. Wackerhagen is a member of the Kings County Medical Society; of the Brooklyn Pathological Society, and of the New York City Pathological Society. He is Consulting Surgeon to the Southern Dispensary and Hospital, to which place he was appointed in 1881. He was united by marriage to Miss Elizabeth B. Hazlett, of Brooklyn, October 25, 1875. Dr. Wackerhagen is a man of unwearied industry, extensive mental resources, and ardently attached to his profession, which he adorns in practice, in theory, and with his pen.

GEORGE RYERSON FOWLER.

GEORGE RYERSON FOWLER was born in the city of New York on the twenty-fifth day of December, 1848. His father, Thomas W. Fowler, a carpenter by trade, and his mother, Sarah Jane Carman, were both born on Long Island, their ancestors being among the earliest settlers of the island. When eight years of age his parents removed to Jamaica, L. I., where his father became a master mechanic of the Long Island Railroad. The circumstances of the parents were such as to allow their son only a public school education, of which he availed himself at the town school.

It was the early desire of the father that his son George should become versed in all technical knowledge pertaining to railroad management. With this end in view, when the boy had passed the different grades taught at the town public school at the age of thirteen, he placed him in the local office of the company by which he was himself employed to learn telegraphy, and to become familiar with the general duties of a station agent. Here he remained for upwards of a year, at the end of which time he was entered as an apprentice in the machine shop of the company. Long prior to this the boy had evinced a taste for anatomical study, but agreeable to his father's wishes he served a regular apprenticeship with the company; and when "out of his time," as it was then called, at the age of eighteen, he left its employ to follow his own plans for life. About this time he made the acquaintance of Mr. Clarence Sterling, of Bridgeport, Conn., an amateur astronomer and earnest scientific worker, then engaged in a manufacturing business. He succeeded in making an arrangement with the latter gentleman whereby the knowledge previously acquired in the machine shop could be made available for the furtherance of Mr. Sterling's business, at the same time allowing him opportunities for scientific study. In this latter he found an encouraging friend in Mr. Sterling.

After a year of hard work he found himself in possession of sufficient funds, saved from his own earnings, to enable him to matriculate at the Bellevue Hospital Medical College, New York, and begin a course in medicine. In the meanwhile his parents had removed to Brooklyn, and with them he made his home during his student life.

In the late Dr. John W. Hamilton, who had served during the War of the Rebellion as an Assistant Surgeon in the United States Navy, he found a warm friend, who thoroughly appreciated the aspirations of the young student, and who encouraged him in every way.

At the close of the college season, he found himself again without funds. Here his mechanical education and knowledge of telegraphy both proved of incalculable value to him; for he was offered, and at once accepted, a position with William Pitt Phelps, a manufacturer of improved printing telegraph instruments, in the Eastern District of Brooklyn.

What with this engagement and a short period subsequently with Mr. Sterling at Bridgeport, he managed to earn the money needed to complete his course at Bellevue,

from which institution he graduated with the degree of Doctor in Medicine, in February, 1871.

Immediately upon receiving his diploma, Dr. Fowler entered upon the duties of his profession in the Eighteenth Ward, a comparatively new portion of the city of Brooklyn. He subsequently removed to the Twenty-first Ward. His mechanical knowledge led him into a fondness for the surgical portion of his profession, and ample opportunity was soon afforded him for following out his desire to devote himself as much as possible to the practice of that branch. In the year following his graduation he was appointed upon the staff of the Central Dispensary, which position he held for two years; and then only resigned on account of the distance from his office to the Dispensary, and his consequent inability to do justice to the work of the institution.

In 1878, he was commissioned as one of the medical officers of the 14th Regiment, N. G. S. N. Y., upon the staff of Col. James McLeer. In the same year the Brooklyn Anatomical and Surgical Society was organized, of which society he was one of the founders. He was elected its first Secretary, and two years afterwards became its President.

As the society grew, a journal for the publication of its scientific work was established, with the title, "Annals of the Anatomical and Surgical Society." Of this he was associate editor; and when, a year later, a wider scope was planned for the journal—it being purposed to make it an exponent of work in its special field wherever done—Dr. L. S. Pilcher and Dr. Fowler became its editors; the name of the journal being changed to the "Annals of Anatomy and Surgery."

Upon the organization of the Bushwick and East Brooklyn Dispensary, in 1878, he was appointed its first visiting surgeon; and, upon the complete organization of its medical staff, he was chosen by the latter body as its presiding officer. In 1880, he was elected a delegate to the American Medical Association from the Medical Society of the County of Kings; in the same year he became a permanent member of the former.

In 1882, by a unanimous vote, he was appointed by the Board of Commissioners of Charities and Correction of Kings County, Consulting Surgeon to the Kings County Hospital at Flatbush. As a part of the resolution by which this appointment was made, a clause was inserted directing a reorganization of the consulting staff, and a conversion of the same into a visiting staff, which the latter hospital lacked. The latter measure met with some opposition on the part of certain members of the consulting staff, as at first constituted, and in the following year, by a majority of one, the Board rescinded the resolution.

In 1883, he was appointed Surgeon-in-Chief to the Department of Fractures and Dislocations of St. Mary's General Hospital, Brooklyn. One-third of the general surgery of this institution was also assigned to his care. During the same year he served as one of the Board of Censors of the Medical Society of the County of Kings; and, in 1884, he was elected a delegate from the same body to the New York State Medical Society.

In 1873, he married Louise R. Wells, the youngest daughter of the late James Wells, a prominent and highly respected citizen of Norristown, Penn., and for a number of years Sheriff of Montgomery county. Of this union, four children were born: Russell S., George R., Florence G., and Royal H.; the second son dying in infancy.

He became a communicant of the Protestant Episcopal church in 1872, and for several years served upon the vestry of St. Matthew's church of that denomination.



George R. Fowler, M. D.



Very Sincerely Yours
Edmund C. Munn

EDWARD C. MANN, M. D.

This gentleman, who, though still young, has achieved a very enviable position in his profession, especially in the department of Psychology, is a native of Braintree, Mass., where he was born April 21, 1850. He traces his descent, in a direct line, from Richard Mann, one of the original "Mayflower pilgrims" of 1620; and who lived near "Mann Hill," in Scituate, Mass., early in 1655. Dr. Mann's grandfather, the Rev. Cyrus Mann, was, during a long and useful life, a Puritan clergyman; and was settled in the pastorate of Westminister, Mass., for a period of twenty-six years. His father, Dr. Cyrus S. Mann, is a physician of over forty years' practice, sixteen of which have been spent in Brooklyn.

It may be said, with pardonable pride, of the Mann family in England that various individuals of the name were honored with the royal favor on several occasions, and in successive reigns. They filled important offices under government, and secured the public confidence by their fidelity to the trusts imposed upon them, their steady loyalty and firm attachment to civil order, in opposition to insurrection and revolution. For many years the king's private secretary was selected from this family.

Dr. Edward C. Mann, the subject of our sketch, was educated mostly under private tutors; and gained his professional education at the College of Physicians and Surgeons, New York city, and Long Island College Hospital, in this city, graduating from the latter as Doctor of Medicine in June, 1870. After some years of hospital practice in New York, mostly in the field of Mental and Nervous Diseases, he located in that city, pursuing his specialty with much energy and devotion.

In 1876, he commenced the preparation of a work on this subject, entitled *A Manual of Psychological Medicine*, which fully occupied all the leisure allowed him by his professional duties, until 1883, when it was issued from the press of P. Blakiston & Son, medical publishers, of Philadelphia. Believing that Psychological, or Mental Medicine, should occupy a position as an authoritative science, Dr. Mann, in this work, has bent all his energies to its elaboration; and, in the opinion of such judges as Profs. Skene and Armor of this city; Prof. Da Costa, of Philadelphia; Prof. Flint, of New York, and many other eminent physicians who tendered him their congratulations on the completion of his work, he has achieved a decided success. In a letter from one of these gentlemen, which we have seen, it is said: "Your book seems to me of great value, and well calculated not only to bring deserved honor

to yourself, but also to the name of American medicine."

In addition to the work, Dr. Mann has contributed to various medical journals the following valuable papers, viz.: to the *London Journal of Psychological Medicine and Mental Pathology*, "The Basis of Health and Disease;" "The Psychological Aspect of the Guiteau Case" (1878); "Codification of the Common Law as to Insanity" (1878); "State Medicine and its Relation to Intemperance and the Inebriate;" "Psychological Aspect of the Laros Case, on the trial of Allan C. Laros, at Easton, Pa., for the murder of his father by poison; the defence being based upon the allegation of Epileptic Insanity;" "On the Treatment of Blindness and Deafness resulting from Cerebro-Spinal Meningitis, by the constant current of Electricity" (1881); "Intemperance and Dipsomania as related to Insanity" (1876); in the *Journal of Nervous and Mental Disease*, "The Pathology and Mental History of Chronic Insanity" (1877); in the *Alienist and Neurologist* (1881), "A Case of Multiple Abscess of the Brain, etc.;" in the *Medico-Legal Journal* (1883), "A Plea for Lunacy Reform;" in the *Quarterly Journal of Inebriety*, "A Plea for a Medical Jurisprudence of Inebriety to keep pace with the conclusions of science respecting this disease" (1884); "The Pathology of Inebriety" (1883), and "Some Practical Points relating to the Treatment of Inebriety" (1883); in the *Am. Psychol. Journal*, 1884, "The Psychological Aspects of the Rowell Trial;" and other papers upon Inebriety, the Nature and Effects of Opium, the Opium Habit, on Brain-tissue Degeneration and Mental Disease as a result of over-stimulation of the brain in school-children; and on various diseases of the centric nervous system.

Dr. Mann holds views in regard to the much mooted subject of inebriety, which are in advance of those generally accepted by the public and by the profession.

In a work recently completed, but not yet published, on *Drugs and Intemperance*, he presents a dissertation on literature, and of the greatest practical and scientific importance, viz., its medico-legal relations. A modified responsibility is assumed, in this work, for those whose inebriety depends upon a neurotic constitution inherited from their ancestors, and a careful medical examination is claimed for those who commit overt acts during the continuance of this disease, which affects the intellect, manners, temper, disposition, habits and character. Dr. Mann, as a close student of

mental science and inebriety, expresses himself most energetically as to the necessity for a co-operative effort, as a practical aid in stemming the great and growing tide of these diseases. He insists upon the necessity of the early recognition and repression of the first signs of these diseases, which threaten family deterioration.

Upon the important topics that have occupied the attention of those interested in the welfare of the insane, Dr. Mann has taken an advanced position; and, in concert with a few of his medico-legal friends, has been endeavoring to bring about some radical changes in the condition of our laws relating to those mentally diseased. His professional labors are earnest and enthusiastic in his chosen specialty. Although the field of his labors is more particularly in New York, his home is in Brooklyn, and his family reside here.

Dr. Mann is a member of the *N. Y. County Medical Society*; the *N. Y. Medico-Legal Society*, where his clear and incisive papers frequently elicit sharp discussion from both the doctors and lawyers there assembled; the *Am. Association for the Cure of Inebriates*; the *National Association for the Protection of the Insane and Prevention of Insanity*; of the *Am. Numismatic and Archeological Societies*, and a Fellow of the *Am. Geographical Society*.

Dr. Mann was married, November 10, 1870, to Miss B. Busteed, of New York, neice of Hon. Richard Kelly, President Fifth National Bank, of that city; and they have three children. Himself and family are connected with the P. E. Church of the Reformation.

CYRUS S. MANN, M. D.

CYRUS S. MANN, M. D., was born in Worcester county, Mass.; was a member of the Class of '41 at Dartmouth College, but was obliged to terminate his course of study on account of ill-health. He received his degree of M. D. at Harvard University, in 1843; and, in 1858, was a member of the Massachusetts Legislature. In 1863 he went from Newton, Mass., to Louisiana, as one of the surgeons of the 31st Mass. Volunteers. In 1868 he located in Brooklyn, where, for a time, he was connected with the Board of Health as Sanitary Inspector, and where he now resides in the enjoyment of a good practice.

RICHARD M. WYCKOFF.

RICHARD M. WYCKOFF, born in Brooklyn, N. Y., February 14, 1839, was educated in part in that city, and in part in Marietta, Ohio; graduated from Amherst College, in 1859; studied medicine and graduated from Bellevue Hospital Medical College in 1864; was

appointed *interne* at Charity and Bellevue Hospitals, and was among those who, while on duty at the latter institution, contracted typhus fever; was Acting Assistant Surgeon on the hospital transport steamer *S. R. Spaulding* in 1865. Shortly after the end of the war he located in Brooklyn for the practice of his profession. In 1870, he was elected Secretary of the Medical Society of the County of Kings, in which position he remained until January, 1884. He was one of the attending physicians at St. Peter's Hospital in 1875, and Secretary of the Medical Council of that hospital. He was made a permanent member of the Medical Society of the State of New York in 1880, after due service as delegate; was elected Vice-President N. Y. Med. Hist. Society in 1882. In sanitary matters of Brooklyn, he has been attached to several health administrations, beginning with the Metropolitan Department in 1868, Sanitary Inspector in 1872, Register of Vital Statistics in 1878, Secretary and Deputy Commissioner of Health in 1882.

ARTHUR MATHEWSON, M. D.

ARTHUR MATHEWSON, M. D., a native of Connecticut, graduated at Yale in 1858, and from the Medical Department of the University of New York in 1861; entered the United States Navy as Assistant Surgeon immediately after, and served during the war in naval hospitals and in the squadrons of Farragut and Porter, being present at the engagements of New Orleans, Vicksburg, and others. Having attained the rank of Surgeon in the regular service, he resigned, and in 1867 settled in Brooklyn, devoting himself from that time to the specialties of diseases of the eye and ear, and spending a year in Europe in the study of these branches; was one of the founders of the Brooklyn Eye and Ear Hospital in 1868, and has ever since been one of its surgeons; is also Surgeon to St. Mary's Hospital, and Surgeon of Long Island College Hospital, and has been Lecturer on Diseases of the Ear in that college, and on Diseases of the Eye and Ear in the Yale Medical School.

JOHN D. RUSHMORE.

JOHN D. RUSHMORE, graduate of College of Physicians and Surgeons, New York, 1870; Attending Physician to Brooklyn Hospital, St. Peter's Hospital, and Eye and Ear Hospital; Professor of Surgery, Long Island College Hospital; Member of the New York and of the American Ophthalmological and Otological Societies; of the American Otological Society, New York State Medical Association, and American Surgical Association; Permanent Member of New York State Medical Society, and American Medical Association.



Edw. M. Key M.D.

FERDINAND W. OSTRANDER, M. D., U. S. N.

The ancestry of the subject of this biography were of Scotch descent. His father, Jonas Smith, a well-to-do farmer, was a public-spirited man and an earnest Whig, who took an active part in the affairs of his township and county. His mother was a daughter of Col. Thomas Ward, who won his military title in the service of his country. Soon after the close of the Revolutionary War, Jonas Smith and Peninnah Ward were married. Their son Thomas, the subject of this sketch, was born August 3, 1800, at their home in Orange, New Jersey. He received his early education at the Orange Academy and from a private tutor, with a view to engaging in the study of medicine, which was the profession of his early choice; inasmuch that, at the age of seventeen, he was regularly entered as a medical student with Dr. Samuel Hayes, of Newark. Three years later, in 1820, he went to New York, studying there with Dr. J. Kearney Rodgers, an eminent physician of that day, one of the founders of the New York Eye and Ear Infirmary. In the infancy of this institution, Dr. Smith was a student and assistant, and holds its certificate, dated 1823.

He had previously entered the College of Physicians and Surgeons, which was then in Barclay street, and received the degree of M. D. in 1822. Shortly afterwards, he returned to his home in Orange, practicing his profession there for a time; but, in 1824, he returned to New York and opened an office in Greenwich street, near Murray.

Possessing a constitution which was never very strong, his health became somewhat impaired, so that he sought the advantages to be derived from a sea voyage, and applied to the Navy Department for an appointment as surgeon, which was granted January 3, 1828. Meanwhile he was commissioned Surgeon of the 82d Regiment, S. N. Y., by Governor DeWitt Clinton, April 16, 1827. His commission as Surgeon's Mate (now called assistant surgeon) bears date March 25, 1828, and is signed by President John Quincy Adams. He was assigned to duty on board the frigate *Hudson*, under Commander John Ord Creighton, for the Brazil station. In August, 1830, while on that station, he was appointed Acting Surgeon, and ordered to the sloop *Vandalia*; returned to the United States in December, 1831, and was ordered to the receiving ship *Franklin*, at New York, and continued on duty three years. During this period occurred the visitation of the Asiatic cholera, which disease, hitherto unknown in this country, Dr. Smith was called on to face for nearly three months; during a portion of the time he was compelled to be on duty night and day. In September, 1834, he was ordered to the schooner *Boxer*, fitting for sea at Norfolk. He sailed from that place early in November, encountering a terrific gale off the coast. Although she received some damage, the *Boxer* continued on her cruise to the Pacific station. Dr. Smith was commissioned Surgeon by President Andrew Jackson, February 7, 1837. In December, 1838, he joined the frigate *Macedonian*, for the West India station. In the summer of 1840, the squadron sailed north, touching at Boston, Portland and Eastport; on the return, the *Erie*, to which he had been transferred, was put in ordinary at Boston, and the officers detached. In April, 1842, he was ordered to the frigate *Congress*, and, in July, sailed for the Mediterranean station, where he continued until December, 1843, when the ship was ordered to the Brazils. While there, the Buenos Ayres fleet seized an American merchant vessel which was endeavoring to run the blockade with a cargo of beaves, as a speculation of the famous P. T. Barnum, but the commander of the *Congress* demanded and secured her release. Dr. Smith returned to the United States in March, 1845. In 1846, was on the receiving ship *Pennsylvania*, at Norfolk, Va.;

was attached to the Navy Yard, New York, from 1847 to 1849, and on the board for the examination of candidates for promotion and admission into the medical corps of the navy. In August, 1850, he joined the sloop *Saratoga* and sailed for the coast of China. Commodore Perry arriving and taking command, the *Saratoga* was made one of the Japan expedition. Surgeon Smith was appointed Fleet Surgeon and ordered to the flagship *Susquehanna*, where he continued until March, 1854, when he was detached to joined the *Saratoga* to return to the United States, where he arrived the first of the following September. He was immediately ordered to the Navy Yard, New York, and continued there on duty until May 1, 1858. On the 9th of April, 1859, he received orders for the *Constellation*, as Fleet Surgeon of the African squadron under Commodore Inman, and sailed in July for Madeira and the west coast of Africa; returned from that squadron—invalided on account of his eyes—to the United States, August 28, 1861; took charge of the Naval Hospital, New York, from January, 1862, until December, 1865; was placed on leave until May 20, 1869, when he was put on duty at the Navy Yard, New York, where he continued until 1870, when, with other retired officers, he was put off duty. In March, 1871, he was commissioned as Medical Director in the Navy, with a relative rank of Commodore.

Since his retirement from active service in the Navy, Dr. Smith has enjoyed his *otium cum dignitate* in his pleasant home in Brooklyn. Always a persevering, diligent student, the high position which he occupied in his profession for so many years was only the fitting reward of his attainments. His acquirements outside of his profession are varied and extensive, as evidenced by a choice collection of rare and standard authors. Thus, possessed of a well-stored mind, broadened by travel and keen observation, the Doctor is a most interesting companion, and his home abounds in souvenirs of his world-wide travels. Naturally modest and retiring in disposition, his gifts and graces, his many good qualities as a man, are little known outside his immediate circle of friends, which includes, however, many of the best people of the city. His marriage with Frances Bowen Lathrop was celebrated in April, 1833; her death occurred in March, 1842. In 1846, he married Harriett Bacon, daughter of the late Robert Bacon, of Winchester, Mass., the issue of which marriage was one daughter, Eleanor F., who died in March, 1877, aged 29 years.

The Doctor and his excellent wife are attendants at Grace Church, on the Heights, and are given to good works and charitable deeds. Though now retired from active life, the Doctor takes a quiet but deep interest in naval, municipal and national affairs. Valuing his privilege as a citizen to assist in securing good government for city and nation, he uses his influence and his ballot in behalf of administrative reform and purity.

FERDINAND W. OSTRANDER, M. D.

FERDINAND W. OSTRANDER, M. D., of No. 95 Clark street, Brooklyn, was born on Cherry street, New York city, June 4, 1804. His father, Dr. Ezekiel O. Ostrander, and mother, Sarah, were then living there, his mother dying during his infancy. When but three years of age, he was taken to live with his maternal grand-parents, William and Sarah Creed, of Jamaica, L. I., with whom he stayed for seven years, returning at the end of that time to his father, then residing at Newtown, L. I. He then attended Walsh's Grammar School, Pearl street, New York city, for one and one-half years; returned to Jamaica, and, for a period of five years we find the young man a pupil in the academy of Professor Eightenburgh. After finishing his course at the academy,



The Z. Smith

he pursued for two years the studies preparatory for admission to a medical college, and, on reaching his twentieth year, entered the College of Physicians and Surgeons of New York, remaining there three years, and then, by trial and friends, secured his diploma from the New York State Medical Association. The young physician, in the year 1841, started in the work of his profession, locating on Broadway street, corner of Willow, where he continued his practice until 1847, when he removed to his present home, 25 Cherry Street.

Dr. Ostrander was married to Sarah A. Wright, in October, 1833, the issue of their marriage being five children, three daughters and two sons, four of whom are now living. One son, John W., is associated with him in the practice of medicine, and the other, Charles, is engaged in business in New York city.

Before the incorporation of Brooklyn as a city, Dr. Ostrander, for a year or more, was Health Physician of the village. In the unusually long duration of Dr. Ostrander's practice—fifty-six years—he has witnessed many changes in the practice of physic and surgery, and the growth of his city. When he began his life's work, Brooklyn was but a village of 8,000 inhabitants, and the only paved street was Fulton, from the Ferry up to Main. Where the City Hall now stands was a tavern, kept by one Duflon, which was the centre for all

mercy and grace. From a visitant of the celebrated Chace, Dr. Phyllis and Sarah, who had turned to the same use of the great Atonement, he had not been deterred with any facility by the treatment of those. When we were asked, "how much more common-sense than the law followed; and to this exercise of common sense, more than all else, did the conversion of Charles (the good) lead," he replied, "it is a question of the nature of your conversion; and that is the only factor in the case that of any consequence will be to the growing young, who must be sustained by Bill, Wendell, Emerson, William Ellsworth, Mrs. Fanning, Garrison and Joseph G. T. Hunt; William G. Hunt, of this city, being the only contemporary now living.

Dr. Ostrander sustained a fall from a horse, resulting in an injury to his right arm, which, in a measure, interfered with the practice of surgery. From this fact, to which may be added a natural bent, he early confined himself to physic and obstetrics. In politics Dr. Ostrander is a Republican, and is a member of Grace Episcopal Church.

Dr. Ostrander is truly a representative of the old-school of gentlemen—gentle, courteous and kind-hearted, with the necessary and invaluable faculty of inspiring the confidence of his patients; and his success, professionally and pecuniarily, is the just result of a life fully spent.

RISE AND PROGRESS OF HOMŒOPATHIC MEDICINE

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KINGS COUNTY.

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R. C. Moffat M.D.

The wonderful growth of the new school of medicine in the United States has no better exemplification than its history in the county of Kings. Its advocates look with laudable pride upon its achievements in forty years; and gladly note the number and standing of its representative men, the wealth and intelligence of its supporters, and the nature, number and variety of its public and semi-public institutions, as compared with the like features of its old and more venerable sister, the old school.

In the year 1825, homoeopathy reached Europe, and America in the person of Doctor HANS B. GRAH, who settled in New York. In 1833 the first attempts were made to translate its text-books into English, but not until 1836 and 1838 was this done so as to attract professional attention to their merits; whence it is fair to recognize 1840 as the commencement of its almost universal extension.

In that year (1840), Dr. ROBERT BAXTER, from Haddison, N. Y., and, a few months later, Dr. DAVID BAKER, from New York city, recent converts and hearty advocates of the new test, located themselves in prominent positions in the city of Brooklyn, and commenced

their labor of hope. They were typical men who adapted to the rank he selected in the social scale—Rosman on the Heights, and Baker in Myrtle Avenue, where each drew around him much of the best elements of the class he addressed.

In the following year (1841), Dr. GEORGE COXE, of Waltham, brought them out re-issued with B. & H.'s, a *Prize Essay on religious tract societies*, regarding the convictions of the "better way," and boldly faced the consequences, as they might come, from his professional associates and from his political friends. They came, but not in the way he expected. He was, of course, as the lot of all who proclaim and sustain newly discovered truth—and fear, then hope, love, admiration and surprised confidence, and love went on from the latter.

Dr. E. J. Hart and Dr. C. D. Rosman and Fisher, in Brooklyn, were joined successively by Drs. A. Conrad Hart and P. F. Woods. The former in partnership with Rosman, the latter preferring to work alone. To the patient and successful labors of these five physicians, thoroughly and well, very much of their talent, consideration and time being applied, due by the

were formed the first impressions of the public respecting the new mode of treatment; and of course, in some measure the acceptance of the physicians who followed.

Prosperity, but not peace, was the lot of the pioneers. Their successes were such as could not fail to draw upon them the attention, and soon the envy and jealousy, of some who were quick to see that homœopathic extension meant allopathic decadence.

The law, then as now, required every physician to be a member of the County Medical Society where he resided; but it also allowed the society to reject by ballot unworthy applicants. Just here the antagonistic physicians saw their opportunity. Dr. Rosman had been admitted at once. The danger of the heresy had not manifested itself when he applied; but three years' experience and two additional capable physicians were not to be brooked. Drs. Hull and Wells were summoned, as the law required, to apply for membership of the County Medical Society. They complied, and were promptly rejected, because they were homœopaths. Dr. Wells took it coolly, and turned his back on the entire society. Dr. Hull preferred testing the right of the society to reject him, knowing that he had complied with every legal requirement, and began, on principle, a suit at law for his rights. He won. The society appealed through sixteen successive years till the highest court was reached. The doors were then reluctantly but courteously thrown open to him. Too late! He declined the honor that he contemned, and soon took his seat as President of the *Homœopathic County Medical Society*, which more enlightened legislation had, by this time, called into being.

DR. A. COOKE HULL, born in Utica, N. Y., August 2d, 1818, was the son of a distinguished surgeon, Dr. Amos G. Hull; was educated at Union College, and graduated in 1840, at the College of Physicians and Surgeons of New York city. Removing to Brooklyn in the following year, he commenced practice as a Homœopathist, and was, at various periods, partner with Drs. John F. Gray (his brother-in-law), the late Robert Rosman, the late John Barker, Dr. J. F. Talmadge, and, at the time of his death, with Dr. A. E. Sumner. His qualities both of heart and intellect soon won for him a signal success in securing the confidence and patronage of our most cultured and accomplished citizens in all professions and all the walks of life. It is our province, however, to speak more particularly of his varied labors in extra-professional spheres, of the suggestive brain, the helping hand, the guiding taste, which assisted at the inception, progress, and ultimate success of nearly every institution and public enterprise which, within the past quarter of a century, has crowned the city of Brooklyn with beneficent and far-reaching influences. Upon his monument, as upon that of the architect of St. Paul's, at London, buried under the matchless dome of his own creation, might well be inscribed, *Circumspice te*, "Look around thee." Dr. Hull's public memorial will be found in the history of the *Athenæum*, the *Lyceum*, the *Art Association*, the *Kings County Homœopathic Society*, the *Historical Society*, the *Academy of Music*, the *Brooklyn Club*, all of which efforts were inaugurated by him and his intimate friends. He performed his

professional duties to the best of his skill and science; and then, often, when he should have sought rest for the morrow, he gave his time and energies to the public enterprises of the city. This was his recreation, in preference to parties and the usual social amusements. He died, July 3d, 1868, at Catskill, N. Y., honored as a man, beloved and useful as a physician, and respected as a public-spirited, far-seeing citizen.

But to return. After the advent of Dr. Wells, no name of prominence appears in the annals till we come to that of CARROLL DUNHAM, whose various attainments and high scholarship have won for him a European, as well as American reputation. Though his great achievements were effected after leaving the county of Kings, yet Brooklyn is proud to have claimed him from 1849 to 1856, when his health obliged him to move to Newburgh-on-the-Hudson.

By 1850, Brooklyn and Williamsburgh boasted fourteen homœopathic physicians; all respectable; all regularly educated; all in good social positions; all daily proving, by their successes, their intelligence and ability to cope with the sicknesses of the day. They were quite the peers of corresponding men in the old school, yet they were ignored where they could be ignored, and ostracised whenever ostracism could be made to reach them. In its collective capacity, the Medical Society refused permission to consult with, or in any other way to countenance them. No one dared (there is hardly an exception known) to confer with them even informally, lest the offender be reported to the society and be censured. It is marvelous at this day, when the relations between the schools are so different, that such bitterness and such folly should have obtained. Of personal comment, detraction, and vituperation, it is not fitting to speak; but of public acts, let a single instance be cited, to show the animus of the day.

In 1854, a notable effort was made to injure homœopathy by proving malpractice against one of its physicians. In that year the child of a wealthy merchant in Brooklyn died in the hands of a homœopathic physician, under circumstances that could be explained in different ways. The afflicted relatives were persuaded to ask for a legal investigation, and the coroner of the day, a bitter partizan of the old school, conducted the enquiry. A formidable array of Brooklyn and New York's* most prominent physicians endeavored to establish that the child died from neglected intermittent fever and congestion thence resulting. The defence presented the history of the case; showed that the chill had subsided steadily till it was a mere nothing, when the mumps was contracted from the mother and presented the premonitory symptoms. Then instead of the parotids swelling as usual, the disease struck upon the brain, causing congestion, convulsions, hemorrhage and death. The Coroner, leading the prosecution, denied the possibility of such retrocession of the mumps, when the de-

* Drs. Willard Parker, Jos. M. Smith, James R. Wood, and Alonzo Clark from New York.

fence read from their own old school authorities, Schenlein and Rokitsansky, that such retrocession was possible; and proved themselves very probably right, and far better read in the profession than any who had been called to confront them. The jury imputed no fault to the attending physician, and the old school was baffled.

The vigor of "Young Physic," as homœopathy has been jocosely called, was apparent in the early establishment of a *Pharmacy* devoted exclusively to the manufacture and sale of its medicines. This was undertaken in 1850, and located in Court street, near the City Hall. At the time there were but eight recognized physicians to give it countenance; and seeing that each of these gentlemen dispensed his own medicines, it would seem as if Mr. J. T. P. Smith was either very rash to open a store with but eight reliable customers, or else very "enterprising" in his expectations of the growth of homœopathy. The event proved that he was enterprising; for in four years he found not only permanency, but he was under the necessity of enlarging his quarters to meet the enlarged demand on his services.

Between 1850 and 1855, thirty new homœopathic physicians took up their residences in the two districts, now consolidated as one city; and it was during this lustrum that the first "new departure" for homœopathy was instituted. By it the new school was to assert its claims in public, as it had heretofore done in private; and the poor, like the rich, should know of its excellences.

Under the guardianship of MR. EDWARD W. (the father of Dr. CARROLL) DUNHAM, *President*; JOHN N. TAYLOR, *Vice-President*; ALFRED S. BARNES, *Treasurer*; THEODORE VIEIÖR; EDWARD CORNING, and others of equal standing, was incorporated, in 1852, "THE BROOKLYN HOMŒOPATHIC DISPENSARY," Mr. J. T. P. SMITH, proprietor of the pharmacy, furnishing its rooms and acting as its *Secretary*. The history of this institution is especially interesting by reason of its marked success, and of the important sequences growing out of one portion of its life. Located in Court street, near the City Hall, it was accessible only to the physicians of the Western District, who with an unprecedented unanimity gave their services to its maintenance. The records of the first six months show the attendance, in pairs, of Doctors A. C. HULL and G. V. NEWCOMB; ROBERT ROSMAN and R. C. MERRILL; S. S. GUY and CARROLL DUNHAM; O. R. KING and J. BRYANT; JOHN BARKER and B. C. MAY. The next year shows twenty, viz.: the above, with J. P. DINSMORE, — ZIMMERMAN, JNO. TEENIE, H. MAY, F. G. JOHNSON, A. C. BURKE, E. A. LODGE, S. B. DOTY, J. DUFFIN and HENRY MINTON, all the then recognized physicians in the district but one. It was maintained wholly by private contributions, the city withholding its aid till a later season. Its success, shown by the

appreciation and confidence of the sick poor, may be inferred from the number of patients treated. Each year from 1852 to 1857 showed an increase of more than 25 per cent. over the preceding. The first year, 504, the last, namely, 1274. A considerable increase when the difficulties of its frequency are considered. In four years (1857) enlarged accommodations became necessary, and the institution was moved to the corner of Court street and State, Dr. FRYCKE, then becoming Resident Physician.

DR. JOHN BRYANT was born in Northport, L. I., November 19, 1813, spent the first few years of his professional life in his native village, and came to Brooklyn in October, 1838. Here he was actively engaged in practice, although, under almost insuperable conditions of physical infirmity, until his death, Nov. 20th, 1865.

He was a graduate of the Pennsylvania Medical College, and the author of several treatises on Homœopathy, among which was the excellent work on the practice of this school, known as "Bryant's Pocket Manual."

DANIEL D. SMITH, M. D., born in Portsmouth, N. H., Dec. 16, 1807, died in Brooklyn, N. Y., March 10th, 1878. Under the tuition of his father, who was a Surgeon, and also a practitioner of the Thompsonian school, extensively known and respected throughout the New England States, young Daniel began to visit the sick and practice the healing art at the early age of eighteen. He afterwards attended lectures at the Massachusetts Medical College, in Boston, from which he graduated, and practiced several years in Gloucester and Boston. About 1841, he was attracted by, and soon adopted, the Hahnemanian theory of cure, and in 1848 removed to New York State. For many years he occupied the chair of Chemistry, Physiology and Obstetrics in the Homœopathic Medical College of New York, and proved a most successful teacher. Ill health finally obliged him to remove to Spring Valley, Rockland county, N. Y., where he practiced for ten years, and was instrumental in organizing the Homœopathic Medical Society of that county. Then finding that he could no longer bear the exposure of a country practice, he removed to Brooklyn, where he subsequently died. He was a member of Plymouth church; an excellent physician, a ready and eloquent speaker, a fine musician, a mechanical genius, and a pure-hearted man.

HENRY E. MORRILL, M. D., a native of Boston, Mass., born December 29th, 1813; a pupil of Phillips' Academy, at Andover, and at Amherst College, Mass. After leaving college, he taught in several schools, and was employed in medicine at Cincinnati and in Philadelphia, where he graduated in 1840, at the age of twenty-seven.

After attending the several public offices, he returned in 1847 to Brooklyn, where he is the first reader known to be interested in Homœopathy; and, in 1858, resumed practice as a homœopathizing Homœopathist. He soon became very popular, and drew around him a large circle of friends and patients. In all the relations of life, he was a Christian — a consistent and devout follower of the Christian religion, and a most successful and successful physician.

DR. HENRY MORRILL, who died at his residence, 100 West 10th Street, Brooklyn, on the 10th of March, 1878, was born in Massachusetts, and spent most of his professional life in Brooklyn, where he was a

Dr. Cooke was at the age of about twenty-two, under the guidance of Dr. T. P. Cooke, a relative by marriage. He attended one course of lectures at Cleveland, and one or more at the College of Physicians and Surgeons, New York, during the winter of 1848, under the supervision of Dr. A. L. Sayre. Ill health sent him to Wisconsin before his graduation; and, in 1849, he went to California, from which, after two years he returned with renewed health, and graduated at the New York College of Physicians and Surgeons. Having, while in California, embraced the tenets of Homœopathy, he at once took up its practice, in Brooklyn, in 1853, in partnership with Dr. A. Cooke Hull; but in 1854, severed this connection, and entered upon a career with a success which was uniform and quite remarkable. Indeed, for several years before his death, he enjoyed a larger and choicer practice than any physician in Brooklyn, of whatever school. He died April 18th, 1868, leaving behind him a memory still green in the hearts of his patients, friends and surviving professional brethren.

A notable and gratifying evidence of the public appreciation of homœopathy requires mention here, if the chronology of the school is to be maintained. It is to be found in the extensive distribution and sale of homœopathic remedies on the counters of the old-school druggists themselves. As early as 1858, the third year of the society, the secret preparations of Dr. F. HUMPHREYS were advertised and sold under the name of "Homœopathic Specifics." These were followed in 1875 by counter cases of legitimate homœopathic medicines, put out by BOLRICKE & TAFEL, of New York, Philadelphia, Baltimore, New Orleans, San Francisco and Chicago, the leading homœopathic pharmacists of America. So great is the demand for these goods at the present time, that there is hardly a respectable apothecary of the old school in the country who does not consider them part of his necessary stock in trade. This carrying the war into Africa, naturally gave great umbrage to the old-school physicians, but their remonstrances were met by the reply that "they are in demand; and we would just as lief sell them as any other quack (*sic*) medicines!"

A Homœopathic County Medical Society organized.—The centennial anniversary of Hahnemann's birth occurred in April, 1855, and was commemorated by social gatherings of his admirers all over the country. Those of Brooklyn resulted in the institution of regular meetings for professional discussions, reports, interchanges, etc., etc. It was a natural outcome of the wants of twenty-nine active and painstaking physicians. Its organization was the simplest possible. No name but "meetings" was allowed; no officer but secretary, who was at the same time treasurer, and, if he died, reporter. This formless Association lived two years, and died in giving birth to the County Homœopathic Medical Society.

Thus, at the meeting of the association, September 3, 1857, Dr. Moffat stated that "several homœopathic physicians of unquestioned respectability had been annoyed by receiving a printed summons to appear before

the Kings County Medical Society (allopathic). They were required to show their diplomas, that the society might have evidence of their right to practice medicine; threats were expressed that in case of disregarding the warning herewith conveyed, etc., etc., etc. However some of us might choose to disregard these mandates, there were still others, and especially novitiates in our ranks, who might be greatly disturbed by them. * * * We, as Homœopaths, are authorized to form our own county societies, that would be in all legal respects the peers of those now existing. * * * With a view to bringing the matter in due form before the meeting, Dr. E. T. Richardson, seconded by Dr. H. Minton, *moved*, That it is expedient to form a 'Kings County Homœopathic Medical Society.' Thus was initiated the second public demonstration of the new-school; and so heartily was it seconded and carried into effect, that on the 12th of November of the same year (1857), the present "HOMŒOPATHIC MEDICAL SOCIETY OF THE COUNTY OF KINGS" was legally instituted, DR. ROBERT ROSMAN, the pioneer homœopathic physician of Brooklyn, being its first President. Its membership was at once twenty-nine, and embraced every recognized homœopathic physician in the county.

Thus, in seventeen years, Homœopathy had passed from non-existence to full legal status and recognition. Its adherents felt proud of their achievements; and considered them sure indications of the permanence as well as of the acceptance of the school in Brooklyn.

A commendable ambition possessed the minds of the society. All desired the furtherance of the school, and counseled as to the best means of effecting it. Some urged the possession of power and place, and advocated the persistent claiming of appointments in the gift of the city and state authorities as rights. Others, and these were notably the seniors and the graver minds, said, "Our real strength lies in our sick-rooms. Multiply these; make more cures; and very likely later, but far more surely, we will be called on to discharge larger and more responsible duties." The wiser counsels prevailed, and as a whole the professors of Homœopathy pursued their business interests in a quiet and unobtrusive way, that was at once the source and evidence of their strength. The meetings of the society were invaluable to its members. It gave them *esprit-du-corps* and served as an exchange. Novitiates were welcomed, encouraged, supplied with information, and were made to feel the force of brotherhood. Thus seven more years of patient labor passed on, and by 1864 no less than eighty-five Homœopathic physicians had taken up their abodes, for longer or shorter time, in Kings county.

The Homœopathic Medical Society of Kings County, thus organized, was afterwards incorporated under the general law to further professional inter-

course, and advance Homoeopathy. It first numbered 29 members; now it has 80. The first officers were: R. Rosman, M.D., *Pres.*; S. C. Handford, M.D., *Vice-Pres.*; B. C. Macy, M.D., *Rec. Sec.*; E. T. Richardson, M.D., *Cor. Sec.*; J. P. Duffin, M.D., *Treas.*; Drs. P. P. Wells, A. Cooke Hull, S. S. Guy, *Censors*. The succeeding *Presidents* were as follows: P. P. Wells, A. C. Hull, A. Wright, E. T. Richardson, W. Wright, R. C. Moffat, J. Barker, A. C. Burke, H. Minton, J. B. Elliot, W. L. R. Perrine, R. C. Moffat, H. E. Morrill, W. S. Searle, W. M. L. Fiske, G. V. Newcome, H. M. Lewis, E. Hasbrouck, Charles S. Bonnell. The present Board is as follows: Drs. Charles S. Bonnell, *Pres.*; W. W. Blackman, *Vice Pres.*; John L. Moffat, *Rec. Sec.*; A. B. Campbell, *Cor. Sec.*; Hugh H. Smith, R. C. Moffat, *Necrologists*. Meetings of the Society are held at 44 Court street, on the first Tuesday of the month.

The Gates Avenue Homœopathic Dispensary was established and incorporated in 1867, by certain benevolent laymen and physicians, residents of "the Hill," in behalf of the poor, who could not go as far as Court street for help. Rooms were hired, and a dispensary with the title as above established, where Gates avenue diverges from Fulton. With a medical staff of nine physicians and surgeons, and a board of seven trustees, as appears by the latest circular issued, the number of patients for the year ending September 30, 1879, was 3,249, and of visits made to homes, 241. Present *Officers*: R. D. Benedict, *President* (since the organization); Peter Notman, *Treasurer*; Volney Aldridge, *Secretary*; J. L. Keep, M.D., Peter Milne, Jr., Eugene D. Berri, Wm. B. Boorum. *Medical Staff* (from organization): Drs. Sam'l Talmage, F. E. Robinson, W. S. Terhune, W. H. Vyse, Geo. C. Jeffery, S. H. Keep, D. M. Brown, Wm. E. Wamsley, Ed. Everitt, E. J. Whitney, J. H. Osborn, G. W. Newcomb, H. M. Lewis, S. E. Stiles, Wm. C. Bryant, J. L. Monmonier, A. R. Jarrett. *Consulting Staff of Physicians and Surgeons* (from organization): Drs. J. L. Keep, J. F. Talmage, M. Bryant, A. E. Sumner, J. B. Elliott, G. H. R. Bennett. *Surgeon Dentists* (from organization): E. H. Stelle, Edson W. Smith, C. H. Glover, M. E. Elmendorf, J. C. Monroe. Present *Medical Director*, J. L. Keep, M.D. *House Physician*, Samuel Talmage, M.D.

JOHN LESTER KEEP, M. D.—The Keep family has for the past quarter of a century, been somewhat prominently identified with Homoeopathy in the city of Brooklyn. The father, Dr. Lester Keep, came here in 1860, from Fair Haven, Conn., and soon acquired a very excellent practice, and his two sons, John L. and S. Hopkins, commenced their professional career here.

John Lester Keep, the subject of our sketch, was born at Fair Haven, Conn., March 18th, 1838; received his early education at the schools of that pleasant town, and later at Thetford Academy, Vermont, and finished with a liberal course at the Collegiate and Commercial Institute of New

Hayden Center, a semimilitary school, founded by Gen. Wm. H. Russell.

Plans for a self-sustaining career in a life were hampered by ill health, and during the summer of 1880, Dr. McGowan taught school at Bradford, in the western State. The summer and autumn of 1881, was spent at home. In the summer of 1882, in attendance upon his father, he was then in poor health, and it was during this time that he commenced studying medicine. During the following winter and spring he was in Key West, Florida, pursuing his studies and practicing some as opportunity offered. In the autumn of 1883, he commenced lectures at the Hahnemann Medical College of Philadelphia, from which he graduated March 21, 1885. On turning immediately to Brooklyn, he entered practice, in partnership with his father, at the corner of Gates and Vanderbilt avenues. In 1886 he served as chief surgeon on one of the old "Black Ball" Gun-boats.

In 1865, he attended another course of lectures at the New York Homeopathic Medical College, and graduated February 28th, 1866. In 1866 he became a member of the Kings County Homeopathic Medical Society, of which he was subsequently secretary for two years or more, resigning in 1870. He joined the American Alliance of Homeopaths in 1867; and was the chief promoter of the Gates Avenue Homeopathic Dispensary, established in 1867, taking medical charge of it for some years. He was also a member of the medical staff of the Brooklyn Homeopathic Hospital.

Dr. Keep was appointed Assistant Surgeon of the 13th Regiment, N. G., S. N. Y., December 1st, 1861, his commission being, we believe, the first ever issued, in this State, to a Homoeopathic physician; was promoted surgeon of the Fifth Brigade, December 14th, 1860, and resigned February 28th, 1872; was re-commissioned surgeon of same brigade, November 8th, 1875; promoted surgeon of Second Division, N. G., S. N. Y., March 18th, 1880, and was honored for "long and faithful service," with the brevet of Colonel, March 14th, 1883. He is still in service, on the staff of Major-General James Jourdan, commanding Second Division, N. G., S. N. Y.

In 1877, Dr. Keep removed to his present elegant residence, at 460 Clinton avenue, and is in the full enjoyment of a large and successful practice. Alert, genial, and with hosts of friends and patients, his life-work stretches before him, sunlit with the rays of hope and useful endeavor.

WILLIAM M. FISKE, M. D., was born in 1794, at New Bedford, of the earliest and most honorable New England families, tracing the pedigree to Sir and Dame Knight the Baron of Stradhaugh, parish of Laxfield, county of Suffolk, England, who lived in the reigns of Kings Henry IV. and VI., from A. D. 1399 to A. D. 1400, and from whom descended the Fiske family, as published in the following Genealogical Annotations. Phineas Fiske, an emigrant from old England to New England, in 1635, became a farmer, and had Thomas, and Nathaniel, William, M. D., his sons, who settled in the town of Fiske in America. Dr. John Fiske, son of Nathaniel, and Phineas Fiske, M. D., were the grandfathers of Dr. William M. Fiske, and New Bedford, Mass. The first free apothecary in Falmouth was Dr. John Fiske. The first Congregational divine, Rev. Phineas Fiske, was his first son. Eleazer, the son of Dr. William M. Fiske, was the first physician and apothecary in Falmouth, from the death of Dr. Thomas Fiske. Eleazer Fiske was the father's assistant and successor in the apothecary business at Falmouth, and, in the capacity of his son, succeeded him there. Dr. Fiske's great grandfather, United States Surgeon, was born in New Bedford, Massachusetts, in 1700, and died in 1784.

lingford, Conn., soon after, and subsequently to Stoughton, where he died in 1810. Dr. Ebenezer Fiske graduated from Yale College, Conn., was married in 1773, and became an eminent preacher and scholar, and was the author of a system of Grammar which in its time attracted much attention. For some two years prior to his death in 1810, he was Rector of the Episcopal Church of St. Mary's parish, Georgia.

The father of Dr. William M. L. Fiske was Almond D. Fiske, who was employed, and well versed, in the trade in stoves at the age of nineteen, and became a manufacturer and projector of the now ubiquitous and universally used base-burner, which, however, was not perfected until after his death. He was the first to introduce the steam engine for use in foundries, setting one up in his own foundry, at Newtown, L. I., about 1845, which was, for a time, an object of considerable curiosity to numerous visitors. Mr. Fiske also invented the now celebrated Fiske Metallic Burial Case, of which he was the manufacturer until his death, in 1851. On his mother's side, Dr. Fiske is descended from an old and highly respectable family, of Albany, N. Y. Harvey Raymond, his grandfather, removed from Albany to New York about 1830, and became an intimate of Daniel Webster's, and other distinguished men of the day. His daughter, Phebe Ann Raymond, married Almond D. Fiske. Their son, William M. L. Fiske, was born in New York, May 10, 1841. His parents subsequently removed to Newtown, Long Island, where his father owned a farm, which included most of the present village of Winfield. There Dr. Fiske received the rudiments of his education at a private school. After his father's death, the family removed to Chazy, Clinton county, N. Y., and later, he attended the Bakersfield (Vt.) Academy, and the Champlain Academy, in Clinton county, N. Y., where he prepared for college and began the study of medicine. Circumstances, over which he had no control, seemed to necessitate at least a temporary abandonment of his plan of obtaining a collegiate education and pursuing his medical studies; and he went to New York, and, during an interval, was employed in commercial pursuits. After a time, an opportunity presented itself for his resumption of the study of medicine; and, in 1859, he became a student at the New York Medical College. At the opening of the new Bellevue Hospital Medical College, Dr. Fiske was one of the first to enter as a student there, following Prof. R. Ogden Doremus, formerly Professor of Chemistry in the New York Medical College, who transferred his influence and services from the New York Medical College to the new Bellevue Hospital Medical College. Not long afterward, Dr. Fiske, after passing a competitive examination, was appointed one of the medical physicians of Blackwell's Island Hospital, there being a vacancy on the Bellevue staff, and served as such for eight months. In 1862, in the interim between the second and third courses of lectures, he made application for appointment upon the medical staff of the 47th Regiment, N. Y. Volunteers; but, there being no vacancy, he enlisted in Company A of that regiment, as a private soldier. After a month's service in the ranks, he was appointed, by General Morris, to act as steward at the convalescent hospital, at Fort McHenry; and, a few weeks later, became acting assistant post surgeon in charge of the post hospital, and served in such capacity until the expiration of his regiment's three months' term of enlistment, when, with his comrades, he was mustered out of service. Returning to New York, he again entered the new Bellevue Hospital Medical College, and graduated in its second graduating class—that of 1863. Immediately after graduation he entered the same as a student with Dr. Albert Wright, of Brooklyn, and began the study of Homœ-

opathy, and, in 1864, graduated from the New York Homœopathic College. He was a few months in private practice; then, after passing an examination before the Board of Examiners, stationed in New York, he was appointed acting assistant surgeon in the United States Army, and served as such until the close of the war.

After the war, Dr. Fiske practiced his profession two years at Aurora, Illinois, whence he removed to Rochester, N. Y. After a five years' residence there, at the earnest solicitation of his old preceptor, Dr. Albert Wright, he abandoned an increasing practice, and returned to Brooklyn to become Dr. Wright's partner; a relation which continued till the death of Dr. Wright, in 1874, the added opportunities for a surgical practice in no small degree influencing him to make the change. Since the death of Dr. Wright, he has continued practice in Brooklyn, E. D., his residence and office being at No. 12 Bedford avenue.

Dr. Fiske associated himself with the chair of surgery in the Brooklyn Homœopathic Dispensary, which was formerly maintained on Atlantic avenue. Upon the institution of the Brooklyn Homœopathic Hospital he became, and still continues, one of the surgeons on its staff; and, upon the death of Dr. Sumner, in 1882, was unanimously elected his successor, as President of the Staff and Medical Director of the hospital. He was one of the founders and organizers of the Brooklyn, E. D., Homœopathic Dispensary, and is a trustee of that institution. He was one of the organizers and lecturers of the Training School for Nurses of the Brooklyn Maternity and of the Homœopathic Hospital, and continued his services until compelled, reluctantly, to relinquish them on account of his large and constantly-increasing practice. He is a member and an ex-President of the Brooklyn Homœopathic Society, a member and an ex-Vice-President of the New York State Homœopathic Society, and a member of the American Institute of Homœopathy.

The career of Dr. Fiske has been a remarkably successful one, but its success has not been easily won. It is the legitimate reward of that patient, hopeful industry and self-denial which are the foundation stones of all advancement in any walk of life, in any business or profession; and he has brought to bear upon his fortunes the influences of an integrity and a steadfastness of purpose which, had his mind inclined to theology, the law or commercial pursuits, would have made him as eminent as a clergyman, an attorney or a merchant as he has become in his chosen profession. A lover of his fellow men and a believer in human liberty and human progress, he has been a life-long adherent to the principles of true Republicanism, but he has never been an active politician. A Presbyterian, he has been for thirteen years an active member and trustee of the Ross street Presbyterian Church. He was married October 11th, 1865, to Miss Julia P. Sage, of Rochester, N. Y., who has borne him four sons.

Dr. Fiske was for a number of years, and until compelled to go to Florida on account of ill health, the meteorological reporter at Rochester, N. Y., for the Smithsonian Institute at Washington, D. C.; and, after his removal to Florida, he established the meteorological station at San Mateo, in that State.

The Brooklyn Homœopathic Dispensary was incorporated December 5, 1852, mainly through the benevolent enterprise and energy of Mr. Edward W. Dunham; the trustees for the first year being E. W. Dunham, J. G. Arnold, John N. Taylor, John A. Davenport, S. P. Church, Ed. Corning, Theodore Victor, A. G. Allen, A. S. Barnes; from whom



Wm. L. Foster, Esq.

were chosen E. W. Dunham, *President*; John N. Taylor, *Vice-President*; Alfred S. Barnes, *Treasurer*; to these were added J. T. P. Smith, of the Pharmacy, as *Secretary*. Rooms were procured at No. 30 Court street, and opened to the public January 2, 1853. Dr. B. C. Macy became resident physician, and ten of the Homeopathic physicians of Brooklyn (increased after the first six months to twenty) volunteered their services; a very handsome representation of the practitioners of that school of medicine, of whom there were only twenty-five at that time in the Western District of the city. About the year 1857 larger quarters became necessary; and the institution was moved from No. 30 to 83 Court street, Dr. Frank Bond becoming resident physician. In 1859, aid was first received from the City and State; and, in 1865, the trustees were enabled, by the generosity of the citizens of Brooklyn, to purchase the three-story and basement brick building, No. 186 Atlantic street, which was thoroughly and admirably fitted up for the purposes of a dispensary.

After a time, however, the career of the institution, at first so flourishing and so gratifying to those interested, seemed to receive a check. Wherever the fault lay, the trustees, under the presidency of Charles A. Townsend, Esq., were dissatisfied; and accepting the resignation of the then resident physician, entrusted the management to Doctor ALBERT E. SUMNER, who had but recently (1863) removed to Brooklyn, and (while *interne* of St. Peter's Hospital) given indications of fitness for the extraordinary career he subsequently filled. Under his administration a new and more central location, at 178 Atlantic street, was occupied, and an entire reorganization of the institution effected. The patients were assigned to separate departments, as the eye and ear, the throat and chest, etc., etc., and special physicians appointed over each. The departments, at first four, but afterwards seven, were furnished with all the instruments and appliances required; the apothecary's department fully supplied with medicines; and a professional library, belonging to the institution, presented every requisite for study and for reference, needed by the attending physicians. The success was all that the limits of the building would allow. In 1864 the number of patients was 1,824; in 1869, it was 10,260. The state official, whose business it was to examine all institutions receiving aid from the State, reported the Brooklyn Homœopathic Dispensary the second most perfect in the State in equipment, in management, and in service. February 9, 1871, the name was changed to the *Brooklyn Homœopathic Dispensary and Hospital*, thus allowing them to care for indoor as well as outside patients. (See History of Brooklyn Homœopathic Hospital.)

A Homœopathic Hospital. With the removal of the Dispensary the friends of Homœopathy felt that the time for a hospital had come. The trustees, under

Charles A. Townsend, Esq., *President*, conferred with their friends and with the physicians of the Dispensary, and, later, with the physicians of the city generally. From these they received assurances of sympathy and hearty service, and taking Dr. Sumner into their counsel, they laid their plans systematically and wisely. It was incorporated in 1871, under the present name, with power to construct a hospital. A *Charity Ball*, February, 1871, at the Academy of Music, gave the would-be hospital its first substantial start, followed, as it was, by the equally successful *Charity Ball* of succeeding years, by which its funds have been steadily augmented. In 1872 the premises previously occupied by the Protestant Orphan Asylum, in Cumberland street, near Washington Park, were purchased at a cost of \$37,500, and after such alterations as were essential, they were formally opened as the

Brooklyn Homœopathic Hospital, on March 15, 1873, with only ten beds; and the first patient was received on the 3d of March following. Its officers were: CHAS. A. TOWNSEND, *Pres.*; DAVID M. STONE, *Vice-Pres.*; JOHN P. ALBION, *Treas.*; JAMES R. COOPER, *Secy.*; and W. W. GARDNER, *Chman.*, with some twenty others of Brooklyn's best citizens as Trustees. Its medical staff consisted of ten physicians and three surgeons under the guidance of ALBERT SUMNER. From the first the internal administration of the hospital was entrusted to Sister Mildred, whose high administrative powers and untiring labors more than justified the anticipations of every friend of the enterprise. In 1875, the annual Charity Balls were replaced by annual Fairs, held at the Academy of Music, and which socially, as well as financially, have proved uniformly successful. Its success was manifest from the first, and its prosperity so great that the enlargement of the premises became a duty. In 1874-'75 an addition, 23 x 50 feet, four stories high, containing basement, was made at one end, in which a children's ward of sixteen beds, was located; and, in five years more, (1880-'81), costing \$100,000, was purchased, built, and fitted up, at the same place. The Academy of Music Dispensary was transferred in 1875 to the first-named portion, where it is still carried on, providing, at the same time, seven departments, each with its corps (1, 2, or 3, according to the size of the department) of attending physicians and nurses.

Alongside the main hospital building at the corner of Tremont Street (see *Notes*) was formed in 1876. It has achieved an enviable reputation, some of its graduates being among the foremost of the profession of all great medical centers. The number of admissions for 1880-'81, of whom 2,000 have been treated.

The *ophthalmology* of the hospital staff provided and furnished an *ophthalmology* service, which was one of which were suggested by the Hospital Board. The *ophthalmology* of the hospital staff provided and furnished an *ophthalmology* service, which was one of which were suggested by the Hospital Board.

able and fittings, quietly procured (in 1880) by the physicians and friends of the hospital, at a cost of \$2,000, and a further outlay of about \$800 a year for maintenance. It is in telephonic communication with Police Headquarters, and is provided with a surgeon and assistant, appointed by the Board of Health, which has also assigned to it the Central District, a most important and extensive field of service.

Associated with the hospital, for furthering its interests, is a *Ladies' Aid Society*, consisting of sixty-eight of Brooklyn's best representatives, largely wives of the trustees. Its province is to conduct entertainments, fairs, etc., the proceeds of which are added to the voluntary contributions by which mainly the hospital is sustained.

To the first of January, 1883 (nine years and ten months), there have been admitted to the wards of the hospital 2,353 patients.

Dr. ALBERT E. SUMNER was the *originator* of this hospital, and its medical director until his death in 1882; C. A. TOWNSEND was its *President*; the SISTER MILDRED its *Lady Superintendent*, and S. E. STILES, M. D., its *Resident Physician* from January, 1871, to 1884.

The government of the hospital is vested in forty-six trustees, the officers being still those named at its opening. (See above).

The hospital medical and surgical staff, under the presidency of Dr. W. M. L. FISKE, consists of thirteen physicians and seven surgeons.

The dispensary medical and surgical staff, under the superintendency of Dr. C. L. BONNELL, consists of ten physicians and six surgeons.

ALBERT E. SUMNER, A. M., M. D., was born in Hartford, Conn., Nov. 28, 1840, his father being Hiram F. Sumner, a well-known and highly esteemed publisher of that city. Young Sumner entered Trinity College, Hartford, and completed his studies at the New York University Medical Department. After graduation he became Physician to the Home for Incurables, New York city; served during the Civil War for eighteen months, as Surgeon in the United States Navy, and then associated himself with the late Dr. A. Cooke Hull, and rapidly gained success in his practice. He was, for a time, interne at St. Peter's Hospital; then became Medical Director of the Brooklyn Dispensary, out of which grew the Homœopathic Hospital, with which Dr. Sumner's name is imperishably connected as that of its originator. He was also identified with the Maternity; was a member of the American Institute of Homœopathy; of the New York State and the Kings County Homœopathic Medical Societies; and a trustee of the Homœopathic State Insane Asylum at Middletown, N. Y.

"As a physician he stood very high; as a diagnostician, he was clear and accurate; in prognosis, prompt and reliable; in treatment, self-reliant and very successful. But the real clue to his brilliant professional success was his buoyant, genial nature, which characterized each feature and movement, and inspired confidence and hope in every sick room which he entered.

"In his daily intercourse with patients and friends, or even with strangers, brain and heart both seemed alert with sympathy, and instinct with courage. He possessed tact without dissimulation, and energy without rashness. Had he not been an admirable physician he would have been an admirable politician of the better sort. Indeed, few physicians have so clear an idea as he had of the real dignity of their professional standing, and its power for promoting the best interests of society. Dr. Sumner was, in the best sense, a "society doctor," because he recognized not only the opportunity, but the duty, which his profession imposed upon him to promote and mould all those various social influences which tend to the conservation and the welfare of the community.

"It was this feeling, together with the natural genial impulse of his disposition, which made him foremost in every public improvement, and which linked his earnest labors as well as his name, with the fortunes of so many medical, literary and social institutions in Brooklyn. To all these movements, his "push," his indomitable pluck, his experience, and wide social acquaintance and influence, rendered him invaluable. When we look at the results—much of which could not have been accomplished without him—we can scarcely believe that they were compassed within a period of barely twenty years. That corner building, on Clinton and Joralemon streets, where he succeeded the lamented Hull—is, indeed, between the two, identified with nearly all the institutions and enterprises which have beautified and adorned the city, within the past quarter of a century. Hull's mantle, in this respect, fell worthily upon Sumner's shoulders. The traditions of the house were handed from one to the other. During both lives, it was the very *cradle* of Brooklyn's later intellectual and social growth."

New Homœopathic Organizations.—The opening of its third decade demonstrated the hold Homœopathy had upon the public mind, by the hearty interest of its advocates. In the year 1871, three of its noblest and most successful charities were initiated, viz.: the *Brooklyn Maternity*, the *Homœopathic Hospital*, and the *Brooklyn Nursery*. Of the second we have just spoken; the first and third must needs have briefer, but not less interesting mention. They are each the work of ladies, and each is maintained and managed by ladies exclusively. Their names announce their respective purposes.

The Brooklyn Maternity (first called "The Brook-Homœopathic Lying-in Asylum") was projected in 1870 to repress infanticide, by providing an asylum during confinement, and Homœopathic care for the unfortunate and for the respectable poor as well. The unfortunate were to be restored, if possible, and to be helped to recover their sense of self-respect. The success of the institution was beyond expectation. The enlarging numbers of patients demanded large accommodations, large means, and more co-workers. Such were the wisdom and assiduity of the ladies, and such is the munificent charity of Brooklyn, that their needs were supplied and their work sustained, aided by Dr. A. E. Sumner, who was their Medical Director, in addition to his great labors at the hospital. This first Board of officers consisted of Mrs. R. C. Moffat, Mrs. A. Burtis,

Mrs. C. E. Arbuckle, Mrs. W. T. Coole, Mrs. Tobias New, Miss M. A. Downs. In the second year they left their three-story wooden premises, on the corner of Lawrence and Willoughby streets, and bought the large double mansion, 46 and 48 Concord street, where their inestimable labors have been wrought. In addition to the Lying-in, a Nursery (*i. e.*, a baby boarding) department became necessary; then, of necessity, a Childs' Hospital, that the sick might be properly isolated; and the ladies felt that the circle of their work was complete. But no! It was soon seen and felt that the opportunity to establish a Training School for monthly Nurses was too good to be overlooked, and great was the work, filled as were their hands already; yet their hearts were too large to forego the opportunity. So the

New York State Training School for Nurses, the first in America, was incorporated and instituted, a short time before Bellevue, in 1873. The statistics of the Maternity are marvelous; no public institution, and few private practitioners, have surpassed them. Patients have been brought into its wards from the slums of the city, from the streets, in the very throes of labor, with diseases variously complicating the condition that warranted their admission; yet, out of 787 confinements (the whole number as shown by the twelfth annual report, 1883), there have been but ten deaths, and not one during labor. Of its great successes in restoring the unfortunate, this is not the place to speak. From the Training School sixty capable and accomplished nurses have been graduated, and their reputation is such that the school has no superior.

The administration of the Maternity has been by a board of forty lady managers. The office of *First Directress* has been filled by Mrs. R. C. MOFFAT (five years), Mrs. H. W. SAGE (three years), Mrs. GEORGE STANNARD (three years); *Secretary*, Mrs. TOBIAS NEW (seven years), Mrs. G. STANNARD (one year), Mrs. G. W. GILBERT (three years), and of *Treasurer*, Mrs. W. T. COOLE (two years), Mrs. ROBERT SHAW (nine years). The Medical Staff consisted of eight physicians, including a resident, all appointed annually. The present officers are Mrs. GEORGE STANNARD, *First Directress*; Mrs. J. HOWARD, *Second Directress*; Mrs. N. Y. BEERS, *Third Directress*; Mrs. GEORGE W. GILBERT, *Secretary*; Mrs. ROBERT SHAW, *Treasurer*.

The Brooklyn Nursery, the third product of the same year (1871), sprang into existence by the determination of some earnest ladies who hoped, under the greatly lessened infant mortality of pure Homœopathic treatment, to found an asylum for "poor, destitute and friendless children not over three years of age." It provided a permanent home for these, and "a temporary home, where children can be placed by the day, week, or month," while their parents pursued their regular vocations. The exceeding charity of this

work speaks for itself. It enlisted at once a hearty body of workers, whose efforts have been sustained by liberal contributions pecuniarily, and by professional services from corps of sympathizing Homœopathic physicians. Its eleventh annual report presents the names of forty managing ladies, with Mrs. E. B. ROBERTS, *First Directress*; Mrs. D. HOWARD, *Treasurer*; and Mrs. H. F. ARMS, *Secretary*, and the names of ten physicians, who form the medical staff. No statistics are submitted in the annual report.

The Homœopathic Pharmacies.—The "missionary" and rendered by these in the extension of the new school is so great as to vie with that of the physicians themselves, and they cannot, on that account, be overlooked. They were established in the following order. It should be borne in mind that they are devoted almost exclusively to the manufacture and sale of homœopathic medicines, etc., excluding the fancy articles that form so large a portion of stock in the apothecaries' shops of the old school.

1. Mr. J. T. P. SMITH, in 1850, in Court street, near the City Hall. Although in other hands, it is still in existence.

2. Mr. L. H. SMITH, in 1868, opened the second at 106 Court street, and is now at 73, in the same street.

3. Mr. J. O. NOXON, like his predecessors, clinging close to the City Hall, opened the third pharmacy in 1869, under very favorable auspices, at 323 Washington street. In May, 1873, he moved to 444 Fulton street, where he still conducts the largest homœopathic pharmacy in the county.

4-5. Two transient and unsuccessful efforts were made in 1875 by Mr. ST. CHARLES and by Mr. TILTON.

6. In the same year, 1875, Mr. SOMERS made a successful effort in the Eastern District, locating in Fourth street. He died in 1880, and the establishment was closed.

7. In 1870, Mr. C. T. HORTON, a Homœopathic pharmacist of New York, established a branch, also in Fourth street. This is still successfully maintained in the hands of Mr. P. J. HOYT.

The E. D. Homœopathic Dispensary Association provides for the Homœopathic poor of the Eastern District in a building constructed especially for its use at Nos. 194 and 196 South Third street. The existence of this charity is mainly due to the efforts of the late Dr. WILLIAM WRIGHT, one of the first practitioners in this part of the city. He was ambitious for the extension of the school, and he felt that the poor of the Eastern District ought to have all the advantages that could be provided. The co-operation of his fellow practitioners and of several Brooklyn's best physicians joined, and together in 1872, they succeeded in obtaining an organization March 6th, and an incorporation March 14th, 1872, with the following incorporators: William Wright, M. D., Samuel Godwin, Edward A. Jones, James Hall, S. C. Hanford, M. D., Sylvester Tuttel,

James A. Bradley, Andrew B. Hodges, William H. Hanford, M. D., William M. L. Fiske, M. D., George Nichols, M. D., John Young, M. D., Carl von der Lube, M. D., Mary C. Brown, M. D., Alice Boole Campbell, M. D., Augustus von der Lube, M. D., James A. Falkner, M. D., W. Brainerd, James H. Ward, M. D., Demas Strong.

The first officers were: William Wright, M. D., *President*; James A. Falkner, *Secretary*, and William E. Horwill, *Treasurer*. The dispensary is located in the elegant new building at 194 and 196 South Third street. Prosperity and a constantly enlarging area attended upon faithful and successful service; and, upon the completion of their present quarters, their former rooms were abandoned for their present quarters, erected specially for their use.

OFFICERS AND TRUSTEES: James Hall, *Pres.*; Hon. Demas Strong, George Nichols, M. D., *Vice-Presidents*; William E. Horwill, *Treas.*; Samuel S. Martin, *Secy.*; James Hall, Demas Strong, George Nichols, M. D., William E. Horwill, W. M. L. Fiske, M. D., Albert M. Kalbfleisch, George V. Tompkins, George L. A. Martin, George B. Hooton, Samuel S. Martin, E. C. Wadsworth, *Trustees*.

ALBERT WRIGHT, M. D., born in Cambridge, Washington county, N. Y., April 14, 1804, and died December, 1874, was one of a farmer's nine children; pursued his medical studies under Dr. Jonathan Dow, of White Creek, and graduated from the Vermont Academy of Medicine, in 1831. Until 1849, he practiced according to the methods of the old school, mostly in Granville, N. Y., and then, removing to New York city, took up Homœopathy under the friendly direction of Dr. John F. Gray and other pioneer practitioners of that school. He shortly removed to Williamsburgh; was one of the original incorporators of the Kings County Homœopathic Medical Society, in 1857, of which he was president in 1860 and 1866, and which he frequently represented in the State Society. He was an uncompromising believer in Homœopathy; yet, by virtue of his dignity and honesty of purpose, commanded the respectful recognition of his professional neighbors of the old school. He was an eminently religious man, a Presbyterian; but always unostentatious and uncontroversial.

The Brooklyn Woman's Homœopathic Hospital and Dispensary, the latest Homœopathic charity, is at 534 Myrtle avenue. Opened in June, 1881, as a "Woman's Dispensary," but enlarged and incorporated under the above title in April, 1883. Though yet in its earlier stages it has treated 2,180 patients during the last year, and will prove its claim to the confidence and liberal support of the public by the faithfulness and the success of its work. Its special plea for favor rests in that it is the only institution where women (and children) can be treated exclusively by women, female physicians only being allowed. It was projected by Dr. AGNES C. VICTOR, whose efforts were supported by Drs. ALICE B. CAMPBELL, IDA B. HUNT, GEORGIA A. CASSIDY, HELENA S. LASSEN, MARY C. and HARRIET E. BROWN, and FANNY R. CODDINGTON.

These physicians have called to their aid an efficient board of managers, also ladies, whose officers are Mesdames D. L. EVERITT, *Pres.*; C. A. GREENE, *Vice-Pres.*; E. SMITH, *Secy.*, and W. H. DAKIN, *Treas.*

The Literature of Homœopathy.—Brooklyn's contributions have been such as to show both professional scholarship and practical usefulness. The monographs of Dr. P. P. WELLS, on *Routine in Medicine*, *Diarrhœa*, *Dysentery*, *Rheumatism*, *Pneumonia*, *Intermittent Fever*, *Typhoid Fever*, *What is Homœopathy?* and *Scarlet Fever*, rank deservedly high in the profession. The last two have been translated into German and Italian, and enjoy an European reputation. Besides these are numerous minor Essays, Provings, Dissertations, etc., etc., from his pen, that have welcome place in the magazines of the school. Dr. BRYANT'S *Pocket Manual*, UNDERWOOD'S *Diseases of Childhood*, and *Therapeutics*, and his *Materia Medica of Differential Potency*. Dr. MINTON'S *Domestic Physician*; *Uterine Therapeutics*, and *Homœopathic Journal of Obstetrics and Diseases of Women and Children* (quarterly); SEARLE'S *A New Form of Nervous Disease, with an Essay on Erythroxylon Coca*.

The above are some of the publications thus far; but Lectures, Reports, Communications, Essays, Provings, Dissertations, etc., etc., all the various forms of medical utterances, of various authorship, are presented in pamphlet form or in magazine articles too numerous for mention. With so numerous and so respectable a laity, with charitable institutions so varied and so creditable, it is easy to infer that Homœopathy has advanced in acceptance and favor with the public so as to be in all respects socially, as well as legally, the peer of the rival school. The obloquy and acrimony with which it was formerly regarded are wholly things of the past. In private life there are mutual courtesies and tolerance such as obtain between gentlemen of differing religious creeds. In public life the Homœopathist is as readily appointed to office, if his claims be as well supported, as his rival. In some of our semi-public charities, notably in the Home for Consumptives and in the service of the Seaside Home, physicians of both schools work side by side, the patient being allowed to select under whose care he will place himself.

DAVID A. GORTON, M. D., was born in the town of Mayfield, Fulton county, New York, November 22d, 1832. He is a son of John and Joanna (Sheldon) Gorton, and descended on his father's side from Samuel Gorton, the first settler of Warwick, R. I., and on his mother's side from John Rogers, the martyr, illustrious progenitors who have a record in history, and to whom the world is largely indebted for its civil and religious liberty. Samuel Gorton was born in Gorton, England, about 1600, and was self-educated to a more than ordinary degree. Prior to 1636, when he settled in Boston, Mass., he was a clothier in London. He became involved in controversy on religious questions, removed to Plymouth and became a preacher; and, though bred in the church of England, soon developed such radical views that a charge of



Very truly yours,

E. F. Gordon, M.D.

S. T. BIRDSALL, M. D., was born in Newburgh, Orange county, N. Y., December 15th, 1815. His parents were members of the Society of Friends, and his great-grandfather was a prominent literary writer of Westchester county. Dr. Birdsall's father owned and operated a farm in Orange county, and the subject of this sketch was reared as a farmer boy, mowing, hoeing and haying the plow until he was eighteen years of age, assisting his father during the spring, summer and fall, and attending a country school during the winter months.

After completing a course of study at Oakwood Seminary, in Cayuga county, N. Y., young Birdsall went to New York city in 1856, and began the study of medicine in the office of Dr. W. M. Pratt. After attending a course of lectures at the New York Homœopathic Medical College, and another at the College of Physicians and Surgeons, he went to Philadelphia in the fall of 1867, and in the following February graduated from the Homœopathic Medical College of Pennsylvania, now known as the Hahnemann College, as the "honor" man of his class, receiving the entire vote of the Faculty for the degree of Doctor of Medicine.

During 1868 he returned to New York and took the degree of M.D. from the New York Homœopathic Medical College, soon afterwards entering into partnership with his former preceptor, Dr. Pratt. He was married in June, 1869, to Miss S. Josephine, daughter of D. S. Haviland, Esq. of Glens Falls, N. Y. In 1871, Dr. Birdsall's partnership with Dr. Pratt terminated, and he opened an office in Brooklyn as an adjunct to his New York practice. His practice in Brooklyn increased so rapidly that he deemed it best to remove to that city, and in the spring of 1874, he located at the corner of Bedford and Lafayette avenues, where he has remained to this time, conducting a large general practice, and making a specialty of Gynecology. Dr. Birdsall is a member of the Kings County Homœopathic Medical Society, a permanent member of the New York State Homœopathic Medical Society, and a member of the American Institute of Homœopathy. Owing to the extent and the arduous demands of his private practice, the Doctor has never associated himself with the management of any public hospital or dispensary.

JOHN FRELINGHUYSEN TALMAGE, A. M., M. D.—This accomplished physician, so named after his mother's brother-in-law, Gen. John Frelinghuysen, was born March 11th, 1833, at his father's pleasant hillside home, "Mont Verd," near Somerville, N. J.

His father, Thomas Talmage, a farmer, was one of a family of twelve, all of whom lived to maturity, served well their generation in various spheres of activity, and died in the fellowship of the Christian church. One of these was Samuel K. Talmage, D. D., president of Oglethorpe University, Georgia; another was the father of four sons, who became clergymen, viz.: James; John, a distinguished missionary in China; Goyn, and T. DeWitt, the widely known and popular pastor of the Brooklyn Tabernacle.

John F. Talmage's boyhood was passed on his father's farm, with all the advantages afforded by the happy home circle, and the excellent society in which his parents moved. His early education, commenced at the village academy, was completed under the invaluable personal tuition of his pastor, Rev. T. W. Chambers, D. D., himself a pupil of Dr. Alexander McClelland, whose tact and method of instruction he was able to follow in his own teaching.

In 1849, young Talmage entered as Sophomore at Rutgers College, New Brunswick, N. J.; and was duly graduated in 1852, under the presidency of the late venerable Theodore Frelinghuysen. For a time, after leaving college, he occupied the chair of Ancient Languages in a (now extinct) col-

lege in Alabama, and while in that State became first acquainted, by practical observation, with the tenets of Homœopathy. This also revived in him an already half-formed resolution to select medicine as his life profession. Pursuing his medical studies for six months with Drs. Burritt & Gillson, in Huntsville, Ala., he came north and attended a course of lectures at the Medical Department of the New York University.

In the following summer he made the acquaintance of the late Dr. A. Cooke Hull, of Brooklyn, whose office he entered as a student. Pursuing his studies, with all the advantages offered by the eminent abilities, extensive practice, and personal sympathy of his accomplished instructor, he made rapid progress, and graduated in the spring of 1859, from the University Medical College. After a further period of time spent in enjoying the advantages of Dr. Hull's office, he was by him taken into partnership—a relation which existed for about twelve years. After Dr. Hull's death, in 1868, Dr. Talmage naturally succeeded to the larger portion of his practice, and so rapid was the increase of his *clientage*, that, in 1870, he felt obliged to seek relief from the strain, by associating with him in practice, his brother, Dr. Samuel Talmage, also a graduate of the University Medical School.

In 1863, Dr. Talmage married Miss Maggie A., youngest daughter of Thomas Hunt, Esq., one of the merchant princes of New York. Graceful, winning, and attractive in person and manner, warm in her affections, delicate and yet strong in her enthusiasm for whatever she valued, she was well fitted to be a favorite, as she was, in society at large; but it was as daughter, as sister, as the wife early married and tenderly cherished; as the mother, conscientious and faithful, far-sighted and wise in her solitudes, that she remains in the memory of her family and friends. Her death, July 7th, 1881, was most deeply felt by them; as also by the various charitable interests in which she was interested.

Ever since Dr. Talmage entered upon professional life, his practice has proved so increasingly exacting, as to preclude the possibility of much active effort, on his part, in the various medical and public charities, enterprises, etc., of the day. Yet he has had his share of such labors, being at one time Physician of the Brooklyn Orphan Asylum; at another, in charge of the Department of Diseases of Women at the Brooklyn Homœopathic Dispensary; Consulting Physician of the Brooklyn Nursery, and Visiting Physician of the Brooklyn Homœopathic Hospital; and, more lately, Surgeon of the Eleventh Brigade, N. G., S. N. Y.

From the same reason, as above stated, Dr. Talmage has not made frequent or large contributions to the medical literature of the day, and they have generally been in the form of clinical observations. But, at the time of the last visitation of Asiatic cholera to this country, in 1866, he issued early in the spring, a printed circular of hints and suggestions for the use of his patients; which, though intended only for private circulation, found its way into the press, where it was largely reprinted with most favorable commendation.

Still in the prime of a vigorous manhood, Dr. Talmage is as full as ever of professional work; his practice is chiefly among the most cultured and refined families of the city; and he enjoys an enviable social position, the result of a constantly growing appreciation of his signal ability. Skill in diagnosis, prognosis and therapeutics, together with sound judgment, unremitting attention to his patients and fidelity to truth and honor, characterize his professional record, and justify the remark of an eminent Edinburgh physician, that "in an overcrowded profession there is always room for brains."



Wm. H. P. H. H.

HISTORY OF THE ECLECTIC SCHOOL OF MEDICINE IN BROOKLYN.

The Eclectic School of Medicine in Brooklyn.—D. E. Smith, M. D., was the pioneer of Eclectic Medicine in Brooklyn, in the spring of 1847; being followed within two years by Drs. B. J. Stow and H. E. Firth, and later by Samuel W. Frisbie and others. Of these, Dr. Wm. W. Hadley was the first, and H. S. Firth the second, in the present eastern District. They met with much opposition from the so-called "regular" school; and, finally, October 1st, 1856, organized the *Eclectic Medical Society of Kings County*, of which Drs. D. E. Smith, Wm. W. Hadley, A. E. Jackson, William Barker, and H. E. Firth, were among the earliest and most active members. The Brooklyn Eclectics were also members of the *New York and Brooklyn Medical and Pathological Society*, which met semi-monthly in New York City, where they also had a chartered medical school, entitled *The Metropolitan Medical College*. In May, 1861, the *Eclectic Society of Kings County* was reorganized and incorporated as *The Brooklyn Academy of Medicine*; and, March 15, 1866, became auxiliary to the *Eclectic Medical Society of the State of New York*, which had been chartered in April of the preceding year, taking the place of the former State Botanic Society. Of this State Society, Drs. D. E. Smith and Wm. W. Hadley, of Brooklyn, were among the incorporators; and since then Drs. Hadley, D. E. Smith, H. E. Firth, and H. S. Firth, in the order named, have been its Presidents; Dr. D. E. Smith, having been also for 8 years its Treasurer. Among the incorporators of the *Eclectic Medical College of the City of New York*, in 1865, Brooklyn had three representatives, viz., Prof. Wm. W. Hadley, Frank W. Taber, Esq., and D. E. Smith. It was in this College that Dr. Hadley held the chair of *Materia Medica*. He also delivered two courses of lectures in the Central Medical College, at Syracuse, N. Y., in 1849 and '50. He came to Brooklyn in 1856, and until his death, December 19, 1869, rendered distinguished services to his profession, not only as a college lecturer, but as editor of the *New York and Brooklyn Medical and Pathological Journal*. Both the *Eclectic Medical College* and the *U. S. Medical College* are now in active operation; the latter broad and liberal in its scope, and fully equipped for its work of instruction in the science of medicine and surgery.

There are now about 45 eclectic practitioners in Brooklyn, enjoying their full share of practice and public favor.

Brooklyn Academy of Medicine was first organized in 1856, under the name of the "Eclectic Medical

Society of the County of Kings," with 111 members, incorporated under its present name in 1861, and re-incorporated 1865, for the following purposes: To investigate all methods of medical practice, without prejudice, and to adopt the best remedial for the means of curing disease, and alleviating the sufferings of humanity, and that without regard to the source of methods, remedies or means; and further, to associate together for the promotion of the objects here indicated, and for mutual improvement in the science of medicine.

In May, 1866, it became auxiliary to the Eclectic Medical Society of the State of New York. The first officers were: D. E. Smith, M. D., *Pres.*; H. E. Firth, M. D., *Vice-Pres.*; J. T. Burdick, M. D., *Sec.*; B. J. Stow, M. D., *Treas.* *Presidents*, since its organization: 1861, Dr. D. E. Smith; 1862, Dr. S. W. Frisbie; 1863, Dr. J. T. Burdick; 1864, Dr. W. W. Hadley; 1865, Dr. Robert S. Newton; 1866, Dr. D. E. Smith; 1867, Dr. H. S. Firth; 1868, Dr. W. W. Hadley; 1869, Dr. J. Y. Tuthill; 1870, Dr. H. C. Cooper; 1871, Dr. H. S. Firth; 1872, Dr. H. E. Firth; 1873, Dr. J. E. Danelson; 1874, Dr. C. B. Tucker; * 1875, Dr. Napoleon Palmer; 1876, Dr. B. F. Chapman; 1877, Dr. Chas. E. Griswold; 1878, Dr. S. M. Hersey; 1879, Dr. B. J. Stow; 1880, Dr. H. S. Firth; 1881, Dr. Lewis P. Grover; 1882, Dr. G. P. Carman. The present BOARD OF OFFICERS is comprised of William Barker, M. D., who, as *Vice-President*, succeeded H. E. Firth, *President*, at the latter's death, June 4, 1883; H. B. Smith, *Rec. Sec.*; L. B. Firth, *Cor. Sec.*; D. E. Smith, *Treas.* Present Board of *Censors*; J. E. Griswold, M. D.; G. A. Cassidy, M. D.; H. S. Firth, M. D.; George P. Carman, M. D.; Lewis P. Grover, M. D.

The Brooklyn Eclectic Dispensary was established by the *Brooklyn Eclectic Medical Society* September 2d, 1868, and duly incorporated May 10, 1869. Joshua P. Powers, *President*. H. E. Firth, *Secretary*; D. E. Smith, *Treasurer*. It was located at 236 Myrtle Avenue, until its removal, May, 1881, to its present location, 144 Prince street. Mr. Powers died in March, 1877, and was succeeded by the present President, Frank W. Taber, Esq. The dispensary is maintained by a small appropriation from the city, and by donations from the benevolent. Cases treated from its organization up to October 1, 1882, 107,671. During the year commencing October 1st, 1882, and ending September 30, 1883, 6,087 patients received treatment; 8,130 prescriptions were dispensed, and 165 gratuitous visits.

DENNIS E. SMITH, M. D.—This prominent and well-known physician was born in Bethlehem, Pa., Dec. 15, 1819, being the youngest of a family of two sons and three daughters. When he was but two years old his father died, leaving his household in straitened circumstances.

The educational advantages of those days were meagre, and the lad was able to enjoy only one term of school; but with "true grit" he determined to have an education at any sacrifice. He therefore devoted his spare hours to study and reading, and in a few years had taught himself not only the English branches, but Latin also, thus early evincing the energy and perseverance which have so distinctly marked his subsequent career. This habit of study he has retained through all his riper years, and thus has reared a firm superstructure of learning upon the foundation so well laid in his youth.

He early desired to become a physician, having inherited a love of the profession from his father, who was a physician before him. At the age of fourteen he borrowed and eagerly read the medical works of neighboring physicians; when sixteen he was much troubled about his lack of means to obtain a professional education, but he believed in the truth of the old Latin proverb, "*Viam inveniam aut faciam*," so he resolutely acquired the necessary sum by the toil of his hands and the sweat of his brow. He entered his name as a student with Dr. Wooster Beach of New York City, who was then an eminent physician and the founder of the Eclectic School of Medicine. Eclecticism in medicine is a philosophy of selection of remedies based upon the principle of choosing only that which is proved to be safe and good. It adopts in practice whatever is found most beneficial, and changes remedies according to circumstances by the light of acquired knowledge.

In 1846 Dr. Smith graduated from the Reformed Medical College of New York; a few years later the honorary degree of M. D. was conferred upon him by the Pennsylvania Medical University of Philadelphia. In 1847 he located in Brooklyn, on York street, in the Fifth ward, being the first eclectic physician to settle in Brooklyn. Here he remained in the active practice of his profession for seventeen years; here he is still honored and revered, while the memory of his faithful service and charitable deeds still remains in many a humble home. In 1848 he married Miss Joanna V. Baldwin, of Newark, N. J., a lady well suited to be a poor man's wife. Of their five children a son and two daughters are still living.

In April, 1864, Dr. Smith removed to a newer part of the city, then recently built up, purchasing the house No. 131 Fort Greene place, where he still resides. In March, 1869, he buried his wife. In July, 1873, he married Miss Jane R. Bradley, of New Haven, Conn., with whom he is still living.

Dr. Smith has always loved and honored his profession. He was a pioneer in the new school, and the first in the City of Brooklyn to plant the stakes and stretch the lines of eclecticism over the field before occupied by the old school. His eminent services have been promptly recognized by his professional brethren, and he has been largely and influentially connected with medical associations. He was one of the founders of the Eclectic Medical Society of the County of Kings, in 1856, and has been chosen its president at two different times. This society has since been incorporated as the Brooklyn Academy of Medicine. Ever since its formation, twenty-six years ago, it has held instructive monthly meetings, at which papers on medical topics are read, and interesting cases reported and described. It now numbers forty members.

Dr. Smith was one of the seven physicians who signed the call to the eclectic practitioners of the state to meet in the

Senate chamber at Albany, October 10, 1863, to organize a State Eclectic Medical Society. Eighty-nine physicians responded, and the society was organized with the following officers: Robert S. Newton, M. D., of New York, President; Elisha S. Preston, M. D., of Rochester, Vice-President; James T. Burdick, M. D., of Brooklyn, Recording Sec'y; Jacob Van Valkenburgh, M. D., of Charleston Four Corners, Corresponding Sec'y, and the subject of this sketch, from Brooklyn, was chosen Treasurer, to which office he was re-elected nine successive years, and in 1877 he was elected its President. He was one of the incorporators of the Eclectic Medical College of New York, chartered April 22, 1865, and was its vice-president many years.

Dr. Smith and Dr. H. E. Firth were foremost in organizing the Brooklyn Eclectic Dispensary in 1868, for the gratuitous treatment of the city poor by the eclectic method of treatment. The institution was incorporated May 10, 1869. Dr. Smith was elected its first treasurer and has been kept in that responsible position ever since. He has also been one of its visiting physicians from the first, charitably giving his time, means and medical skill to the healing of the poor, without fee or hope of reward.

At the National Eclectic Medical Association held in Chicago, Ill., in 1870, Dr. Smith was elected a permanent member. He was one of the projectors of the United States Medical College in New York city, incorporated May 28, 1878, and also a trustee since that time. This is one of the most liberal institutions in the country, and aims to teach its students all that is known in medicine and kindred sciences.

Dr. Smith is a member of the Masonic fraternity, and has attained the Royal Arch Degree. In 1862, he was Master of the Long Island Lodge, and held that office two successive years. He officiated as Senior Deacon at the laying of the corner stone of the County Court-house. Dr. Smith has been a faithful and consistent member of the Methodist Episcopal church about forty-two years. He first attended the old York street church, and was a member of the building committee which erected the present substantial brick edifice in 1852. He has been an honored trustee of the church for twenty-five years. Illumined by the light of his early Christian manhood forty years ago, his pathway through life has been like that of the just, which, "shineth more and more unto the perfect day."

Dr. Smith has been a very successful physician and has been favored with a large and lucrative practice. He can number among his patrons many of the leading citizens of Brooklyn in wealth and influence. He excels in diagnosis, and is careful and effective in treatment. He possesses an energetic and persevering nature, of great executive ability, yet kindly and courteous withal.

Dr. Smith is an author also. He published, in 1867, a book of 336 pages, entitled "*Leaves from a Physician's Journal*," which comprises sketches of actual scenes and incidents in his own practice, and not mere pictures of fancy. It has been highly commended by the critics. He is also the author of the following monographs upon professional topics, all of which, as well as others not mentioned here, have been published in the different yearly transactions of the State or National Society:—

Pneumonia, Its Pathology and Treatment; Macrotys Racemosa, Its Properties and Uses; Is Similia Similibus Curantur a Law of Cure? The Use of Aesculus Hippocastanum, in Hemorrhoids; Asclepias Tuberosa, Its Use in Pleurisy; Cholera, Its History, Pathology and Cure; Cholera Infantum, and How to Treat it Successfully; Biliary Calculi, The Causes and treatment; Spermatorrhœa, and its Effects upon the Community; The Pathology and Treatment of Convulsions.



H. E. Smith M. D.



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WILLIAM HENRY DUNN, M. D., of East New York, member of a family traceable to the Mayflower. His home was in Flatbush. Several times N. Y. Medical M. Soc. 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513,

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Sober. By the depth of our thinking, you're really thinking about things more in the moment and not about the time that's just spent. For a while, I had a healthy respect, and even admiration, and genuine interest, for the people

In 1976, he founded the Institute for the Study of the Americas, which provided a new focus for his teaching and research. He continued to be involved in development work and administration, though he still continued his active participation in student affairs.

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reasonable requests; and, as a result, this island, having over 1,000 population, is no longer an unhealthy place, inspiring the distrust of passers by, but is comparatively healthful. On account of other duties he resigned this position in 1883. He is an honorary member of the British Medical Association, and several other medical societies, state and local, and is examiner for the Endowment Rank of the Knights of Pythias, and also for life insurance companies. He has twice filled the office of Vice President, and in 1882 was elected President of the Obstetric Medical Society of the City and County of New York. In 1878, on the organization in Brooklyn of Division No. 3, Knights of Pythias, the office of surgeon to the rank for the first time, was created, the doctor being appointed, and still holding the position.

During his proprietorship of the Hudson *Sentinel* he married Cornelia E. Van Aken, of Hudson, by whom he has six daughters. In 1873, he removed from Brooklyn, purchasing his present home. In the line of surgery, he has operated with entire success in a peculiarly difficult case of strangulated hernia; also in removing an entire breast for cancer. Dr. Bowsby is also a regularly constituted Examiner in Lunacy.

As a physician, he is kind and sympathetic; as a surgeon, judicious, conscientious and feeling, while firm and fearless; and to these necessary requisites are due, in a great measure, his professional and pecuniary success.

In politics and religion he is a liberal; acting, in politics, with the Greenback party, being a prominent member.

LIST OF PHYSICIANS AND SURGEONS.

In addition to those whose biographies are given in the foregoing pages, and in the following chapter on *Medical Institutions*, we may also mention, as among the Physicians and Surgeons at present engaged in active practice in the city of Brooklyn and in Kings county:

Andrews, John S. New Lots.

Archer, Henry A. 111 S. Oxford street.

Arnold, John H. Flatbush.

Ashwood, E. P. L. I. College Hospital.

Aten, Henry F. 34 Hanson place.

Born Liv. Co., N. Y., 1829; Grad. Western Reserve Coll., Cleveland, O., 1854; practiced at Dedham, Mass., 1854 to 1865, during which time he was a member Mass. Med. Soc.; removed to Brooklyn 1865; Asst. Surg. U. S. A., at 2d Bull Run, and Asst. Exam. Surg. of Exempts, Norfolk Co., Mass.; specialty, Gynecology.

Baker, Geo. W. 48 Bedford avenue.

Born N. Y. State, 1837; grad. 1862 from Union Coll., and subsequently Coll. of Phys. and Surg.; located in Brooklyn 1865; Asst. Surg. at Stanton and Harewood Hospitals, Washington, D. C.; member of Kings Co. Med. Soc.

Baker, Jennie Van Holland.

Wife of Milo P. Baker, Jr.; born Williamsburgh, 1851; ed. and grad. N. Y. Med. Coll. for Women, 1882, receiving the gold medal for the year; member Kings Co. Med. Soc.

Baker, Rich. C. 97 4th st., Brooklyn, E. D.

Born Margeretville, Del. Co., N. Y., 1852; grad. Ft. Edward Coll. Inst. about 1870; and Med. Dept. Univ. City of N. Y.; loc. Bklyn., 1875; att. Phys. St. Cath. Hosp. and Bklyn., E. D., Hosp. and Disp.; chair Dermatology in both; specialty, Dermatology; House Phys. Colored Home Hosp., N. Y., 1874 to 1875; has been mem. Kings Co. Med. Soc.

Bayles, Havens B. 494 3d avenue.

Born Port Jefferson, L. I., 1857; grad. Coll. Phys. and Surg., 1879; loc. Brooklyn, May, 1879; has been Res. Surg. City Hosp., Bklyn., and Asst. Phys. Skin and Throat Dept., Bklyn. Eye and Ear Hosp.

Beardsley, Wm. E. 115 Clymer street.

Bennett, P. L. 320 Warren street.

Bennett, Jos. B. 198 Columbia street.

Bennett, N. K.

Born Warwick, R. I., 1831; educated Prov., R. I.; was ordained to the ministry, Westerly, R. I., 1859; after 14 years pastorate in 1st Baptist Church, removed to Bklyn. to labor for the study of med.; memb. Kings Co. Soc. 1874; Apoth. E. D. Disp. for two and a half years, resigning position only to gain time for lectures in coll.; grad. N. Y. Hom. Coll., 1877; mem. Am. Inst. Hom. 1881.

Bennett, Wm. H. 188 Sixth avenue.

Blaisdell, Silas C. 126 Sixth street, E. D.

Bonnell, Charles L.

Born in Brooklyn, N. Y., 1833; grad. Wesleyan University, A. B., 1868; and A. M., 1871; studied med. at College of Phys. and Surg., N. Y., and Hahnemann Med. Coll., Phila.; grad. M. D. at latter, 1871; connected with Brooklyn Hom. Hosp. Disp. 11 years; memb. Med. Staff, Brooklyn Maternity, and Lect. N. Y. State Training School for Nurses from 1873 to 1878; also mem. of Med. and Surg. Staff of B. Hom. Hosp., and Lecturer in its Training School; Sec. Kings Co. Hom. Med. Soc. 1877-79; Pres. 1882; re-elected 1883; permanent mem. of Hom. Med. Soc. of State of N. Y.

Bronson, Chas. H. 462 Pacific street.

Brush, George W. 2 Spencer place.

Buchaca, E. 168 Clinton street.

Burnard, Henry W. 384 Jay street.

Campbell, Alice Boole. 114 S. 3d street, E. D.

Born N. Y. City, 1836; grad. N. Y. Med. Coll. and Hosp. for Women, 1867; loc. Bklyn., April 19, 1867; Cor. Sec. of Board of Trustees of her Alma Mater, and also of Kings Co. Hom. Soc.; one of the founders of E. D. Hom. Disp., and of Myrtle Avenue Dispensary for Women and Children.

Cantrell, Robt. B. 53 McDonough street.

Capron, W. J. B. East New York.

Cardwell, George A. 96 Marcy avenue.

Carreau, Joseph A. 203½ Bergen street.

Chace, David E. 274 Bridge street.

Chapin, Edward.

Born in Canandaigua, N. Y., 1847; grad. Oswego State Normal School, 1871; grad. Hom. Med. Coll., 1878; also served as Asst. and Apoth. N. Y. Ophth. Hosp.; one year Res. Phys. Five Points House of Industry; Res. Phys. B. Maternity; also at one time mem. of Staff, and Lect. in same institution; mem. of State and Co. Hom. Med. Soc.; also connected with Disp. of Brooklyn Hosp.; Attending Phys. Seaside Home, Coney Island.

Clark, Joseph E. 340 Clinton street.

Colton, E. G. 311 Fulton street.

Conroy, Wm. E. 586 Franklin avenue.

Born Brooklyn, 1856; grad. Columbia Coll., 1875, and Coll. Phys. and Surg., 1880; loc. Bklyn. 1879; House Surg. St. Peter's Hosp., Brooklyn, 1878-79.

- Conway, John F. 35 B'klyn. avenue.
Corbin, Job 411 Galt street.
Conoran, Jeremiah J. 152 Kent avenue.
Cort, Lottie A. 35 Taylor street, E. D.
Born N. Y. City, 1860; grad. Bklyn. Hosp. and N. Y. Med. Coll. and Hosp. for Women, 1880.
Crane, James 193 Clinton street.
Health Commissioner.
Cruikshank, Wm. J. 110 Jay street.
Darling, Orlando Gardiner, 347 Galt avenue.
Born Southampton, E. I., 1850; grad. Coll. of Med. and Dent. Charleston Med. Coll., N. C., 1872; assistant at Southampton until 1875, when he removed to Brooklyn.
DeSzegthy, C. A. H. 341 Clinton street.
DeLa Vergne, Mrs. E.
Born in Hempstead, E. I., 1830; grad. Hahnemann Coll. at that time the only one open to women in N. Y. city, 1855; practiced in N. Y. three years; since that time, practiced in Brooklyn.
Demison, Rud. N. 119 6th avenue.
Deming, D. P.
D'Honnighe, Louis 113 Washington street.
Dower, Andrew J. 300 E 5th street.
Born Ireland 1845; grad. Queen's Coll., Cork, 1863, and Bellevue Hosp. Med. Coll., 1878; loc. Brooklyn, 1873; Visiting Phys. to St. Mary's Hosp., Dept. of Diseases of Women; memb. Kings Co. Med. Soc., and of Pathological Soc.
Dugan, Edward H. 161 S. 4th street, E. D.
Dupre, Josephine A. 34 Schermerhorn street.
Elliot, Joseph B.
Born Sharon, Conn., 1821; grad. Yale Coll., 1843; Asst. Phys. State Lunatic Asylum, Trenton, N. J., for several years.
Firth, Henry S. 201 S. 3d street, E. D.
Born at Salem, N. J.; grad. Petersburg (Va.) Med. Coll.; practiced in New York 1849; loc. Brooklyn to Bklyn.; has been Pres. of Eclectic Med. and Path. Soc. of N. Y.; of N. Y. State Eclectic Med. Soc., 1882; four times Pres. of Bklyn. Acad. Med. Sciences; and the frequent contributor to the medical press of his school.
Firth, Lambson, B. 144 Prince street.
Born at Salem, N. J., 1806; grad. N. J. Medical Coll. Coll., 1828; Home Surgeon, Bklyn. Dispensary, 1830-1869 to present time; Cor. Sec. Bklyn. Acad. Med.
Fleet, Wm. T. 128 Second place.
Flick, Otis C. 58 Concord street.
Flint, Mrs. D. M. N. 230 Jefferson street.
Ford, Nathaniel 314 Henry street.
Born at Jefferson, Me., Jan. 11, 1814; ent. Bowdoin Coll. 1830, left in 1832 (sophomore) owing to ill health; grad. Med. Dept. of Bowdoin May 1835; practiced at Hampden, Me., Nov., 1836, to May, 1837; Alma, Me., Ap'l, 1837, to July, 1837, when he moved to Brooklyn, N. Y.; several years Pres. Board of Trustees and Consulting Surgeon of Southern Disp. and Hosp.; memb. K. Co. Med. Soc.; loc. at Brooklyn, N. Y., under the U. S. Army, 1862-1864; Ochsberg.
French, Thomas R. 469 Clinton avenue.
Gallagher, Thomas. 420 Manhattan avenue.
Gasside, Wm. B. 373 Adams street.
Born at Harrison, Ohio, Feb. 11, 1835; grad. Physio-Med. Coll. of Ohio, 1858; grad. N. Y. Hom. Med. Coll. 1868; practiced at Harrison, N. Y., and Georgetown, Mass., removed to Brooklyn 1870; Phys. Bklyn. Disp. and Hosp.; Discharge at Westch. 1880; loc. Albany 1881; Bklyn. Hom. Hospital, 1882-1883; removed to 1884; removed to Med. Staff United States Army, 1884; Med. Director of

- Jacobi, August 247 Ewen street.
 Born in Germany, 1838; grad. Coll. of that town 1859; grad. M.D., Gottingen, 1862; located Brooklyn, 1862.
- Kissam, Daniel W. 112 Prospect street.
- Lansdell, H. S. 7th avenue and 9th street.
- Little, William A. 443 Bedford avenue.
- Long, Jesse B. 20 Utica avenue.
 Born at Rush, Pa., June 5, 1837; grad. Coll. Phys. and Surg. Keokuk, Iowa, 1871; located at Brooklyn, 1862; served as private for three months in Civil War; Phys. to Howard Colored Orphan Society for eight years; Phys. Truant Home, four years; memb. K. Co. Med. Soc.
- Malone, Edward 111 South Second street.
 Born Ireland, 1832; grad. St. John's Coll., 1852; grad. Med. Dept. Univ. N. Y. 1858; practiced New Haven, Conn., 1859; loc. in B. 1860; conn. with Blackwell's Isl. Hosp. and Williamsburgh Disp. 1860 to 1865; served 1863 as Surg. on Staff 11th Brig. N. G. S. N. Y.
- Matheson, A. Ross. 337 Union street.
- Mathewson, Arthur 139 Montague street.
- McAulay, E. A. 90 5th street.
- McCorkle, John A. 264 Clinton street.
- McKinney, Susan S. 178 Ryerson street.
 Wife of Rev. W. G. McKinney, a former Miss. to the freedmen in North Carolina; Born Brooklyn, 1847; grad. N. Y. Med. Coll. for Women, 1870 (the first colored lady graduate in America); practiced and had an office in Bklyn. and N. Y. since 1870; memb. Kings Co. Hom. Med. Soc. since 1879; memb. Hom. Med. Soc. State N. Y.; memb. Med. Staff Woman's Hosp., N. Y.; memb. Med. Staff of Woman's Hosp. & Disp., Bklyn., and Treas. of the Staff.
- Mead, Byron E. 428 State street.
- Mears, John. 258 Grand avenue.
- Merritt, W. P. 408 Ninth avenue.
- Merritt, John 22 Lafayette place.
- Miller, P. H.
- Miller, Francis H. Penn ave., East New York.
 Born Brooklyn, 1858; House Surg. St. Peter's Hosp., 1877-1878; grad. Med. Dept. N. Y. Univ. 1879, and located Brooklyn.
- Minton, Henry.
 Born Dover, N. J., 1831; grad. Hom. Med. Coll., Pa., 1853; one of the originators Hom. Disp.; volunteer Surg. "Battle of the Wilderness," 1866; founder of the Brooklyn Lying-in Asylum, 1871, now the "Hom. Maternity," Pres. of its Med. Staff, 1871; rec'd honorary degree A.M., Blackburn Univ., Ill., 1873; always a liberal contributor to med. soc. and journals; ex-Pres. Hom. Med. Soc., Co. Kings; ex-Vice-Pres. State Hom. Med. Soc. N. Y.; senior memb. Am. Inst. Hom.; author of *Treatise on Diseases of Women and Children*, 1865; of *Uterine Therapeutics*, 1883; also editor of *Hom. Journal of Obstetrics and Diseases of Women and Children*; Visiting Phys. Brooklyn Hom. Hosp.
- Muncie, E. H. 63 Livingston street.
 Born Babylon, L. I., 1852; grad. N. Y. Eclectic Coll., 1870; located in Brooklyn, 1880.
- Moffat, John L. 17 Schermerhorn street.
 Born Brooklyn, 1853; B. S., Cornell Univ., 1873; M.D. N. Y. Hom. Med. Coll. (first prize for general standing), 1877; O. et A. Chir. N. Y. Oph. Hosp. Coll., 1881; Atten. Phys. Bklyn. Hom. Hosp. Disp. since 1877; 1878 and 1879, Visiting Phys. to Seaside Home for Children; 1878, Lect. on Anat. to the Nat. Acad. of Design; 1878 to 1883, Attending Phys. Brooklyn Mat., and Lect. on the Care of Children to the N. Y. State Training School for Nurses; Associate (1880), and Fellow, 1882, N. Y. Medico-Chirurgical Soc.; member American Institute Hom. since 1881; member Am. Hom. Ophth. Soc. since 1881; 1882, Attend. Phys. Brooklyn (late Garfield) Home for Children.
- Moffat, Reuben C. 17 Schermerhorn street.
- Morrissey, William P. 146 Milton street.

- Mortimer, William 115 Lorimer street.
- Murray, John O'K. 941 Herkimer street.
- Mustoe, J. F. 7th street, E. D.
- Newman, Robert P. 263 Washington street.
- North, Nelson L. 108 Ross street.
 Born Elba, N. Y., April 20, 1830; grad. Coll. Phys. and Surg. N. Y. City; located in Brooklyn March, 1854; Phys. to Williamsburgh Disp., 1854-'57; Consult. Phys. to same 1857-1865; Consult. Phys. to Indust. Home, 1871; memb. Am. Med. Assoc. 1865-'70; Surg. Metrop. Police, 1861-'69; Surg. Board of Enrolment 3d Dist. N. Y., 1863-'64; memb. N. Y. Acad. Med., Kings, Co. Med. Soc., etc.; has published *Theory of Cause, Course and Treatment of Inflammation*, 1867; *Résumé of Epidemic Cholera*, 1865, and several papers of value in the *Medical Record* and other professional journals.
- Olcott, C. O. 104 Bedford avenue.
- Ormiston, Robert 117 South Elliott place.
 Born in St. Lawrence Co., N. Y.; grad. Univ. Penn. 1858; located in Brooklyn 1859; connected with Brooklyn Hospital since 1870; Bklyn. City Disp. for twelve years; memb. K. Co. Med. Soc., and with 13th Regt. N. G. S. N. Y. during all its service.
- Owen, Edward W. 539-541 Grand street, E. D.
 Born in England; grad. Castleton Med. College, Vt., June, 1846; practiced in N. Y. City and N. J.; located in Brooklyn, 1856; Asst. Surg. 16th N. Y. Heavy Artillery, one year's service in Va.; memb. Phys. Mutual Aid Assoc. of N. Y.
- Palmer, A. Judson. 463 Bedford avenue.
- Palmer, Ernest 155 Clinton street.
- Palmer, Lucius M. 93 Fourth street, E. D.
- Palmer, Warren B.
 Born Keyport, N. J., 1857; Grad. Albany Med. Coll., 1880; Appointed Surgical Clinic Hom. Disp., Brooklyn, E. D., 1880; which chair he still holds.
- Pardee, Ward C.
 Born Seneca Falls, N. Y., 1837; graduated Med. Dep. Univ. N. Y. City; Grad. Hom. Med. Coll., Penn., 1860; practiced until 1862 in N. Y. city; rem. to Monterey, Mex.; practiced two years; returned 1866 to practice in Bklyn.; member Kings Co. Hom. Med. Soc.
- Pendleton, Edward 112 Fourth street, E. D.
 Born Stonington, Conn., 1834; grad. Med. Dep't Univ. N. Y., 1869; located in B., 1869; memb. K. Co. Med. Soc.; was Hosp. Steward, 47th Reg't, N. Y. Vols.
- Plympton, Harry 151 Macon street.
- Prendergast, Patrick J. 518 Henry street.
- Prout, Jonathan S. 167 Clinton street.
 Born at Washington, D. C., 1856; where he grad. M. D. at Nat. Med. Coll.; practiced in St. Louis, Mo.; served during Civil War, as a reg. med. officer, and Surg.-in-Chief of division in the Army of the Tennessee. In 1866, located in B.; has served on staff of B. Central Disp.; for several yrs. Surg. B. Eye and Ear Hosp.; memb. Consult. Staff K. Co. Hosp.; lect'd for some years in L. I. Coll. Hosp., and is memb. of its special staff; memb. of K. Co. Med. Soc., in which he has held different offices; permanent memb. N. Y. State Med. Soc., of B. Path., the N. Y. & Am. Ophthalmological and other societies; has been a contributor to several med. journals.
- Randolph, William H. 179 Herkimer street.
 Born Middletown, N. Y., 1840; grad. M. D., Univ., Mich., 1862; located in B. 1866; Res. Phyn. B. City Hosp., 1862-'3; Act. Ass. Surg. U. S. A., 1863-'65.
- Rankine, Isabelle M. 176 Taylor street.
- Rappold, Julius C. 750 Flushing avenue.
 Born Murchardt, Wurtemberg, Germany, 1836; grad. Latin School of M., 1851; grad. Med. Disp. Univ., N. Y., 1861; located in B., since Dec., 1853; memb. K. Co., Med. Soc., since 1874; Asst. Surg. 28th Regt. N. G. S. N. Y., 1861; Asst. Surg. and Surg., 52d Reg. N. Y. Vols., Aug., '61, Nov., '63.

Turner, Joseph Mott 413 Henry street.

Born Cazenovia, N. Y., Nov. 8, 1817; grad. Hamilton Coll. 1838; practiced Vernon, N. Y., 1841-1844; grad. Transylvania Univ., Ky.; located B., Nov., 1844; memb. K. Co. Med. Soc.; Fell. Am. Acad. Med.; hon. memb. N. Y. Med. Soc., Ky.

Turner, James Y. 100 Ft. Greene place.

Born Kingston, N. Y., 1841; grad. Bellevue Hosp. Med. Coll. 1864; practiced Dover's Plains, N. Y., 1864-'67; located B., 1867; memb. Med. Legal Soc., N. Y.

Turner, S. B. 450 Lewis avenue.

Valentine, John F. 150 Noble street.

Born N. Y. city, 1856; grad. Coll. Phys. & Surg. N. Y., 1879; located B., 1879; Visit. Surg. St. Cath. Hosp., and Visit. Phys. Wmsburgh Disp. and Hosp. Clinic Diseases of Child.; Surg. (rank of Major) 32d Reg. N. G. S. N. Y.

Vanderhube, Margaret . . . 98 Fifth street, E. D.

Vanderveer, John R. 301 Carlton avenue.

Born Newtown, L. I., 1829; grad. Univ. City N. Y. 1850, and M. D. from same 1852; practiced Flatbush, L. I., 1852-'53; when located in B.; Treas. K. Co. Med. Soc., 1879-1883.

Van Horne, Jacob P. 12 Third avenue.

Van Ness, John 456 Bedford avenue.

Wade, James D. 252 South Ninth street.

Born N. Y. city 1838; grad. Med. Dept. N. Y. Univ. 1865; located in B. that yr.; memb. K. Co. Med. Soc.; enl. as private, afterwards commanded Co. F, 87th U. S. (col.) Inf. 2 yrs.; served in Louisiana and Texas.

Ward, James H. 60 Bedford avenue.

Watts, Alfred J. 661 Bedford avenue.

Weeks, Joshua R. 173 Sands street.

Born N. Y. city, 1856; grad. Med. Dept. Univ. City N. Y., 1877; located B., 1878.

Waters, E. 281 Raymond street.

Wemmell, A. A.

Born N. Y. city, 1844; ed. Warwick Inst., Orange Co., N. Y.; studied at N. Y. Homœop. and N. Y. Eclectic Med. Coll.; grad. latter, 1875; founded Hom. Disp. of East N. Y., 1876; Health Officer of East N. Y., 1880-'82; Surgeon for L. I. R. R.; Police Surg. for New Lots, etc.

Westbrook, Benj. F. 74 Clinton street.

Born St. Louis, Mo; rem. to N. Y. City, where he attended the Coll. of the City of N. Y.; grad. L. I. Coll. Hosp., 1874; and served as House Phys. and Surg.; has been Lect. on Surg. Path. and Lect. Anatomy, and Attending Phys. Hosp.; resigned as Lect. on Anat., 1883; app. Visiting Phys. to St. Peter's Hosp., 1880, but obliged, from illness, to relinquish it in a few months; in 1880-'81 was Atten. Phys. Sheltering Arms Nursery; in 1878, became the Pathologist to St. Mary's Hosp. for Women, and, on the org. of the St. Mary's Gen. Hosp., became one of its Medical Board; Phys. in chief to the Dept. Dis. of the Chest; has published a paper on the *Anatomy of the Encephalon* (*Annals of Anat. and Surg.*, vol. 4, 1879) a paper on the *Treatment of Asthma* (*Proc. K. Co. Med. Soc.*); (1880) with Dr. Paul H. Kutz, *Chronic Empyema and Amyloid Degeneration*, (*Proc. K. Co. Med. Soc.*); 1882 on *Abstraction of Blood from the Right Heart* (*N. Y. Med. Record*); 1883, *On a Papæra* (*Arch. of Med.*, vol. X., Nos. 2 and 3, 1883) a lecture on *Cough as a Symptom of Disease* (*Am. Journ. of Neurol. and Psych.*); besides numerous contributions to the proceedings of societies, reviews, etc.; the author of the article on the *Anatomy of the Respiratory Organs*, in the text-book of *Histology*, edited by Dr. Satterthwaite, of New York; Jan., 1884, was elected President of the B. Path. Soc.

Wheeden, Thos. J. 54 Concord street.

Born Baltimore, Md.; grad. Univ. Maryland; grad. M. D., same Univ.; connected with Bd of Health, Bklyn; was in charge of Marine Hosp., Baltimore, 1869; Surg. in Navy during late war; located B., 1872.

White, G. Rankine 380 Ninth street.

Born Scotland, 1839; grad. Edin., 1863; located same yr. in B.; memb. Kings Co. Med. Soc.

Wieber, George 181 South Fifth street.

Wight, Jarvis S. 115 Pacific street.

Born Centreville, N. Y., 1834; grad. Tuft's Coll. A. B. 1861, and A. M. 1882; grad. L. I. Coll. Hosp. 1864; Asst. Surg. U. S. A. 1865; loc. Brooklyn 1866; in L. I. Coll. Hosp. Prof. Mat. Med., 1870-'74; Prof. Surg. and Clinical Surg. 1874-'81; Prof. Operative and Clinical Surg. 1882-'83; and Visit. Surg. Vol. 18th Reg. N. G. S. N. Y.; Hosp. Steward and Asst Surg.; has pub. a work on *Myodynamics*, and some 75 original articles, lectures and scientific papers; specialty, Surgery.

Williams, May S. 395 Sixth avenue.

Willis, Harrison 695 Lafayette avenue.

Wiltman, Charles 686 Flushing avenue.

Woodruff, Harlow L. D. . . 755 DeKalb avenue.

Born East Pike, N. Y., 1845; grad. Med. Dept. Univ. N. Y., 1870; located B. 1871.

Wray, Geo. B. 13 Debevoise street.

Wunderlich, Fred'k W. . . 145 State street.

Young, Charles F. 326 Classon avenue.

Born England, 1834; grad. L. I. Coll. Hosp., 1868; memb. K. Co. Med. Soc.

Zabriskie, J. L. Flatbush.

Zelhoeffer, Charles 175 South Fourth street.

ADDENDA.

Bradford, R. A. 595 Fulton street.

Bodkin, D. G. 92 Sands street.

Birdsall, A. H. 544 Bedford avenue.

Cook, Charles 133 Pacific street.

Candidus, Panteleon . . . 288 S. 9th street.

Freeman, John 80 Hanson place.

Gray, Landon Carter

Born in N. Y. city; ed. academically; and at Columbia Coll., and thence to Univ. of Heidelberg for two years; took a course at the Columbia Law School; stud. med. at Bell. Hosp. Med. Coll., grad. 1873; appt. Phys. N. Y. Disp.; loc. Brooklyn, 1875; held dept. Nervous and Mental Disease in the Out-Door Department, L. I. Coll. Hosp.; Lect. on Anat. and Phys. of the Nervous System; Lect. on Mental and Nervous Disease; res. in 1882, and became Prof. of Mental and Nervous Disease in the N. Y. Polyclinic Med. School; is Phys. in-Chief Dept. Ment. and Nerv. Dis., St. Mary's Hosp.; memb. K. Co. Med. Soc.; K. Co. Path. Soc.; N. Y. Neurol. Soc.; Am. Neurol. Soc.; Editor *Am. Jour. of Neurology and Psychiatry*; author of *The Tendon-Reflex: its Physiology and its Prevalence*; the *Physiological Anatomy of the Spinal Cord and the Motor Tract of the Cerebrum, etc., etc., etc.*

Hunt, William G. 101 Pierrepont street.

Hunt, J. H. 627 Bedford avenue.

Hutchinson, Alex 796 DeKalb avenue.

Hyde, Joel W.

Born Westbrook, Conn., March 20, 1839; son of Rev. Wm. A. Hyde, a Congregational clergyman of some distinction; preparatory ed. at Monson and Northampton, Mass.; grad. Yale Med. School, in 1861, having previously stud. in the Acad. Dept. of the coll.; served during the war of the Rebellion as a Medical and Staff Officer; at one time had full charge of the Point Lookout Brigade Hosp.; after the war, came to Bklyn.; 8 years Attend. Phys. Bklyn. City Orph. Asylum; 1880, elected memb. Council of L. I. Coll. Hosp., and Sec. of the institution; 1882, app. Chief to the Dept. Obstet., St. Mary's Gen. Hosp.

For others, see ADDENDA at end of Volume.

THE HOSPITALS, DISPENSARIES AND SEMI-MEDICAL INSTITUTIONS OF KINGS COUNTY AND BROOKLYN.*

THE BROOKLYN CITY HOSPITAL.—

So far as known, the first proposition to establish a hospital in this city was made by Dr. Isaac J. Repolyer, in his inaugural address, delivered July 13th, 1836, when President of the Kings County Medical Society. A memorial and petition from that society was presented to the Common Council on the 25th of the same month, but without immediate results. In 1839, public attention was sharply called to the need of a hospital, by an accident in Fulton street, near City Hall, in which a gentleman from Buffalo had his leg broken. There was no place to which he could be carried, for care and treatment, except the almshouse, four miles distant. Hon. Cyrus P. Smith witnessed the accident, and he, with Mr. Robert Nichols, had the stranger conveyed to a private house near by, and cared for at their expense. Their active efforts to establish a hospital met with apathy and discouragement. At first they attempted only to engage physicians and surgeons to attend such patients as should be taken to a house owned by Mr. Smith in Adams street, near Johnson, which afforded accommodations for only ten or twelve patients. Through the efforts of Mr. J. M. Perry and others, the Common Council passed an ordinance August 5th, 1839, appropriating \$200 per annum to the support of the hospital thus established. On the 2d of September following, a staff of physicians and surgeons was appointed, and the institution was organized, with a body of rules for its management. It was thus continued until 1844, when the appropriation from the city ceased, being then considered not warranted by the city charter. But the need of such an institution was by this time apparent to all. The matter was brought before the citizens of Brooklyn, in December, 1844, by the Society for Improving the Condition of the Poor. A large public meeting was held February 17th, 1845, and a committee appointed to secure the incorporation of a hospital. The act of incorporation was passed by the Legislature on the 8th of May following, naming the following persons as trustees: Robert Nichols, Henry E. Pierrepont,

Cyrus P. Smith, Peter C. Cornsall, John Greenwood, Joseph W. Harper, William S. Packer, Edward W. DeGraham, Augustus Graham, Henry Stables, Edgar Hicks, George Hall, Edgar J. Bartow, Hosea Webster, Abiel A. Low, Alfred Edwards, Elisha D. Hurlburt, George S. Howland, Patrick Mullen, Nicholas Luqueer, Joseph L. Hale, John H. Smith.

These trustees took immediate steps to raise money for the purchase of ground and the erection of the necessary buildings. At this early period Augustus Graham, Esq., contributed to the cause in the work by a donation of \$5,000.

In October, 1846, a frame dwelling in Jackson street (now Hudson avenue), near Willoughby, was purchased of Mr. Thomas Titus for \$2,600. This small building bore the sign, "Brooklyn City Hospital." Repeated and persistent efforts were made to interest the public and secure aid for enlarging these temporary accommodations, but with poor success. At length a better day dawned. July 4, 1848, Augustus Graham, Esq., whose heart was in the work, gave bonds and mortgages amounting to \$25,000 for an endowment fund, on condition that the citizens of Brooklyn should contribute an equal amount. The trustees applied to the public for contributions, but with little or no response for two years, when the new city charter went into effect, which allowed to the City Hospital the sum of \$2,000 annually. Inspired by this, the twelve or thirteen trustees present at a stated meeting of Oct. 12th, 1850, Jan. 21, 1851, raised a subscription with about \$11,000, to which the public added only some \$4,000. Mr. Graham gave \$2,000 more, and generously waived the amount he claimed as his gift of \$5,000 in 1846.

In the meantime, thirty-seven suitable lots had been purchased on the high ground adjoining Fort Greene (now Washington Park), and in the summer of 1851 the ground was conveyed from them by Mr. Graham. He laid the corner-stone of the new hospital building, June 21, 1851, with appropriate ceremonies.

* For a detailed history of the hospital, see the *History of the City of Brooklyn*, by John C. Smith, published by the Brooklyn Historical Society, 1891.

Learning that the lots on the southern line of the hospital grounds fronting on De Kalb avenue, would be occupied by buildings preventing the circulation of air, the trustees raised among themselves money, and purchased and enclosed these twenty lots with an iron railing and a plantation of trees.

The edifice is of brick, with stone trimmings. The main building is 52 feet wide and the same in depth, and four stories in height. To this have since been added two wings, 74 feet long, 36 feet deep, three stories high; also an extension of 30 feet in length and the same height in the rear. The center building was completed and opened for the reception of patients April 29, 1852. The building stands on high ground on Raymond street, north of De Kalb avenue. The large lawn is smoothly graded down to the street and neatly kept.

The interior arrangements of the City Hospital are as complete as scientific construction can make them. Particular attention was given in building to secure perfect warming, ventilation and drainage. The hospital has accommodations for 200 patients, all the beds being at one time, during the war of the rebellion, fully occupied.

The airy situation of the hospital has rendered it very healthful, and for many years the United States Marine Department made it a receptacle for sailors, giving a good support to the institution. After the Government had erected a marine hospital for the care of its sailors, the withdrawal of this support threw on its trustees the necessity of a renewal of their private contributions. The large majority of its patients are sent to it by the public authorities of Brooklyn, an annual payment of \$4,000 being made from public funds; but, by the accounts, this payment has never amounted to more than the one-third or the one-half of the cost of maintaining these patients.

For a number of years the State appropriated several thousand dollars annually to this institution, and the amount was faithfully used by the trustees in improving and enlarging the hospital accommodations.

In 1872 the trustees erected a brick three-story building on the eastern side of the hospital grounds, near the main building, for an Orthopedic Hospital, and for a Home for Trained Nurses. Means for this improvement was received from the county, for eleven lots sold (1877) for the enlargement of the jail. A number of private apartments, well-furnished, for pay patients, were added, which have been well patronized.

In 1874 the aid from the State was withdrawn. An appeal to the public for funds met with scanty responses. There were some, however, who contributed securities in trust, retaining the income during their life, the principal sum to revert to the use of the hospital after their death. About \$15,000 was thus given by Mr. Thomas S. Stook, and a considerable sum by Robert Nichols, Esq., under similar conditions.

The hospital has a children's ward, where diseased, deformed and crippled children are treated. Adjoining this is the lying-in ward.

In consequence of the name of Brooklyn City Hospital in the charter, and because of the authorities contributing to its support and sending patients to it, the impression prevailed in the public mind that the hospital was a city pauper institution, and indebted for its maintenance to public support, instead of being a private institution, established and maintained by its charitable trustees. This belief deprived it of pecuniary aid from individuals and from bequests. An appeal was made to the Legislature and the word "City" was stricken out and *Brooklyn Hospital* is now its name.

Many, also, believed that an endowment would be received from the Union Ferry Company in consequence of a clause inserted in the By-Laws of the Ferry Company, in 1844, by the then lessees of the ferries, Messrs. LeRoy and Pierrepont, requiring that, at the winding up of the lease, and payment to the stockholders for their stock at par, that any surplus should be paid, as a free gift, to the Brooklyn Hospital.

When, in 1854, the ferry company was dissolved, it was found, on a valuation of its property by commissioners, that there was not a surplus. The lessees then transferred their lease to a corporation, formed under the general laws to constitute corporations, to establish and run ferries. Connected with this charter the trustees also executed a certificate of incorporation, containing an agreement to pay ten per cent. dividends to stockholders, and the par value of their stock at the termination of the corporation, in 1890, and any surplus of assets that might then remain, was to be paid as a *free gift* to the Brooklyn Hospital. The words *free gift* were inserted by the counsel of the lessees to prevent the hospital having any claim on this appropriation of the surplus.

A difference of opinion arose among the trustees of the ferry and the trustees of the hospital, as to the legal bearing of this clause, which had been made in good faith by the ferry company. It was referred to eminent council, who generally agreed that under the Act of Incorporation, the ferry company had a right to run ferries only, and the certificate attached to the charter was not binding. Still, as a legal contest was threatened, and a claim made by the hospital for \$100,000, a compromise was made, and \$75,000 paid by the ferry company, on receiving a release from the hospital of all further claim on the ferry surplus, if any should remain on the termination of the charter.

In the classes of patients received, no distinction is made as regards color or nationality. Not only charity patients are treated, but, by a special provision inserted in the articles of incorporation, there are private wards set apart where those who wish can have special care and nursing at moderate charges.

The hospital staff of physicians and surgeons now included some of the most eminent men in the medical profession, and a high standard of excellence is well maintained.

OFFICERS: P. C. Cornell, *President and Treasurer*; Elias Lewis, Jr., *Vice-President*; Henry P. Morgan, *Secretary*; C. V. Dudley, *Superintendent*; Drs. J. C. Hutchison, D. E. Kissam, S. Fleet Speir, J. D. Rushmore, *Staff of Surgeons*; Drs. Robert Ormiston, Alex. Hutchins, Arthur R. Paine, Samuel Sherwell, *Staff of Physicians*; James Crane, M. D., *Consulting Physician*.

ROBERT NICHOLS, born in 1790, in New York city, educated in Connecticut, at the age of 15 became a newspaper clerk; and at 18 was apprenticed to the bakers' trade, and, for a short time, carried it on in Brooklyn, but was turned out in 1811 and never resumed the business. In December, 1812, he became captain's clerk in the Brooklyn Navy Yard. To "sit" by authority of Commodore Lewis, he opened a recruiting rendezvous for seamen, for the gunboat flotilla, in New York harbor, and was made purser of the flotilla. In April, 1814, his connection with the flotilla ceased, and, hearing of a Col. De La Croix, who had opened a military school in New York city, Mr. Nichols, together with Chas. I. Doughty, Joseph Dean, and other young men, inspired by martial ardor, formed a military association, waited upon the colonel and arranged with him to have a drill master sent to Brooklyn, to exercise them in the manual of arms. Such was their assiduity and attention to the instructions of their drill master, that when, five months later, the militia was ordered into service at Fort Greene, the companies commanded by these young men were more thoroughly disciplined than others upon the ground. The year 1814 was passed by Mr. Nichols in the discharge of onerous public duties; was Secretary to Commodore Lewis: kept open his rendezvous, where he recruited over a thousand seamen; and, a portion of the time, commanded a company in camp, on Fort Greene, from which he was not absent for a single night, for nearly three months. His company (the 5th, of 64th regiment, 22d brigade, N. Y. S. Infantry), was esteemed the best drilled in this division of the army. In August, 1815, he was appointed Adjutant of the 3d Regiment of detailed infantry, destined for service on the Canadian frontier, but the force was finally not called upon: Brigade Quartermaster of 22d Brigade, April 12, 1816; Lieutenant Colonel, March 4, 1817; Colonel, with rank, from July 19th (in place of Col. Joseph Dean, resigned), August 23, 1823; Brigadier General, 44th Brigade, March 27, 1827.

In 1821, Mr. Nichols, with Andrew Mercein, Augustus Graham, Joseph Moser, George Hall, and other good men, became a pioneer in the Sunday-school movement in the village. With them, also, as well as Thomas Kirk, F. C. Tucker and George S. Wise, he was, in 1823, active in the founding of the Apprentices' Library, of which he was the first secretary. In 1824, he and other directors of the library, made the first radical movement, in this village, in the temperance cause, by agreeing, among themselves, to refrain from offering liquors to visitors, when visiting each others' houses.

The interest which he ever felt in the proper education of youth, led him to co-operate in every effort for the establishment of public schools. In 1826, he was a school commissioner, and took an active part in the organization of the public school system. He also was active in the establishment of the Brooklyn Savings Bank, of which he was first account-

ant, keeping an Indian appropriation for two years. The Apprentices' Library having become well stocked, the books belonging thereto were sold at night, the proceeds being retained by Mr. Nichols' successors until the 10th January, 1817, he was made *President*. It was shortly after placed on a permanent basis, by the library at Mr. Augustus Graham's, upon whose library he built. Mr. Nichols was elected *President*, and for some time carried on the work of the library successfully. In 1820, when he was President of the N. Y. Library Association, was, in 1820, was successful in the organization of the Society for Improving the Education of the Young, of which he was elected *President* for the first year. Of the various societies, he was a contributor to the Education Committee, and of the Temperance Committee in 1827, and, during the following year, *President*. Of the Brooklyn City Hospital, he was elected the president, but declined in favor of others. He completed, however, the work at that establishment, which he held until 1830, was Treasurer from 1828 to 1830, and Vice-President from 1830 until the year of his death. He was considered by those in the establishment of his good character, and a great deal of his time and attention in ill-health had power to abate his interest, or his efforts in its behalf. To wit: his own money he devoted to the cause, there were regularly paid; and, in his will, he devised the sum of \$2000 to the institution. The Brooklyn City Hospital, chartered in 1825, had been organized, in 1826, at the death of its former President, Colonel Alden Spooner, Mr. Nichols was elected to that office. From that time forward, it enjoyed an unusual degree of success. At the close of 1861, when his health failed, he attempted to resign his office. His resignation, however, by the Directors, was constantly consented to retain his position, but refused to receive the salary for the last half year.

In private life, he was the light of the household; his very presence there was an atmosphere of cheerfulness. Much of his time was devoted to the instruction and rational amusement of his children, to whom his clear good sense and amiable temper eminently fitted him as a counsellor and friend. Even-tempered, calm in his utterances, averse to personal gossip, never speaking ill of any one, he always bore the participation on the part of others with prompt and courtesy.

On the 10th of February, 1862, Mr. Nichols died, leaving to the city a rich heritage of good works, and to the young, for whom he labored, an example worthy of imitation.

St. Peter's Hospital, occupying a large portion of the block bounded by Throckmorton, (here and Congress Streets, was projected by Hon. A. Thompson, of St. Peter's Church. At the instigation of our bishop, he enlisted the services of a number of the Sisters of the Poor of St. Francis, who have since been engaged in the good work. It has been well built, and is now a model of the kind of hospital in this country.

The hospital is situated on the corner of Throckmorton and Congress Streets, and is a fine building, and is a model of the kind of hospital in this country. It is a fine building, and is a model of the kind of hospital in this country. It is a fine building, and is a model of the kind of hospital in this country.

The hospital is situated on the corner of Throckmorton and Congress Streets, and is a fine building, and is a model of the kind of hospital in this country. It is a fine building, and is a model of the kind of hospital in this country.

at the corner of Hicks and Congress streets, and in the first year, besides receiving a number of patients they gave a temporary home to more than two hundred children of soldiers who were away in the war.

In 1865, the building was entirely devoted to hospital purposes, and 91 patients received; in 1866, the hospital was incorporated; in 1869 and 1870, the adjoining houses in Congress street were purchased and opened for the admission of patients, but the accommodations are not sufficient for the demand. The Sisters visit the homes of the sick poor, and, to the extent of the capacity of the hospital, receive the sick, or those suffering from injuries and accidents, regardless of creed or color; the only conditions of admission being sickness, poverty, and a vacant bed in the wards.

The recent purchase of property in Henry street accommodates thirty beds for the reception of chronic cases. The hospital now contains 150 beds, and has treated 15,000 charity patients up to July, 1883. The field of this hospital is the whole city and surrounding country, and it is mainly dependent upon charitable contributions for support, which the Sisters solicit from door to door.

St. Catharine's Hospital.—This institution was originally intended only for the members of the Church of the Most Holy Trinity on Montrose avenue. Lots were bought in 1867 on Bushwick avenue and Johnson street plank road, adjoining the present depot of L. I. R. R. This location proving unfit for the purpose, twenty-three city lots on the old "Thursby estate" on Bushwick avenue were secured, and the hospital organized June 17, 1870.

The old Thursby homestead was arranged to receive patients, and thirty beds at first used, in charge of the Sisters of St. Dominic. The need of larger accommodations was soon felt, and a new building commenced in 1874; finished in 1876. It is of brick, with stone trimming, is 172 feet long, and about 40 feet wide. It contains all the modern improvements, with accommodation for 130 charity patients and eight private wards. A further enlargement is contemplated. Twelve hundred patients have been treated since the opening of the hospital. Its originators were the Very Rev. M. May, V. G., and the Ven. Superior Sister Saraphina Stainer, O. S. D. The institution is mainly supported by voluntary contribution.

Consulting Physicians: Heinrich Löwenstein, M. D.; Heinrich Riedel, M. D. *Directing Physicians:* Jakob Fuhs, M. D.; Karl Zellhöffer, M. D.; William Moitrier, M. D.; J. G. Winklemann, M. D. *Directing Surgeons:* Samuel J. Brady, M. D.; Heinrich J. Hesse, M. D.; Jas. Feeley, M. D.; Jno. F. Valentine, M. D. *Dentist:* Dr. August Grosch. *Physicians:* G. Schmeker, M. D.; Chas. G. Köhler, M. D.; Heinrich J. Hesse, M. D.; Jas. L. Kortright, M. D.; Aug.



ST. CATHARINE'S HOSPITAL.

L. Hardrich, M. D.; C. Fulda, M. D.; R. C. Baker, M. D.; Geo. R. Cutter, M. D. E. H. Wilson, *House Surgeon*.

The Long Island College Hospital occupies the block bounded by Pacific, Henry and Amity streets, in the southern part of the city, with its main front on Henry street. It combines a Hospital, a Dispensary, a Medical School, and a Training School for Nurses.

The absence of an institution devoted to the treatment of diseases in a part of the city which was making rapid strides of progress, induced, in the fall of 1857, a number of public-spirited citizens to meet, in order to discuss the proper steps to overcome the want of such an institution, which was felt every day more and more. An organization, under the name of the "St. John's Hospital," was decided on, and at once called into existence. On the 5th of November, 1857, this new organization took charge of what had been the German Dispensary, which then occupied rooms in No. 147 Court street, in this city. On the 23d December, 1857, a Hospital was opened, the name of which was changed shortly afterwards to that of the Long Island College Hospital. Under this name, a charter was obtained from the Legislature of 1858. As the rooms formerly occupied by the Dispensary were entirely inadequate to the purposes of the new organization, steps were soon taken to obtain more suitable quarters, and negotiations entered into for the purchase of the "Perry Mansion," a handsome private residence, occupying the above block, and consisting, in addition to large grounds, of a brick building, two stories and basement high, with two wooden wings, used as con-

servatories, and a number of minor out-buildings. The negotiations led to a successful issue, and to the purchase of the property, in February, 1855. At once the necessary changes to adapt the building to their new purposes were made, the Long Island College Hospital moved into its new quarters, where it has continued its work ever since. The Medical College, however, was not fully organized until 1860, when the first full course of lectures was given at the close of which 22 students graduated.

The Long Island College Hospital occupies to-day a very prominent position among similar institutions of this country; it rests on a firm and substantial basis; and, so far as human foresight goes, there is every prospect of success for long years to come. The institution, however, has not reached its present prominent position without great struggles; and its doors would be closed

The Long Island College Hospital would, therefore, scarcely fail to attract public attention, and to receive from its friends the necessary assistance to carry on the good work. But when the war had been brought to a happy close, when public and private hospitals overflowed no longer with wounded soldiers, and when the great number of surgeons discharged from the army had to find their practice in civil life, and the prospects of young men devoting themselves to the medical profession became, in consequence, less brilliant, the Long Island, with other institutions, felt sorely the great reaction through which the country passed. The managers were more involved in a severe struggle to obtain the necessary means for its support. It was then, when the crisis of its existence arrived, and the lay managers were ready to give up the fight as hopeless, that a few members of the Council, equally



LONG ISLAND COLLEGE HOSPITAL.

to-day, if it had not been for a few courageous, self-sacrificing men, who, when everybody else was ready to withdraw from the field, took up the struggle almost single-handed, and showed what faith in a good work can do, when assisted by great intelligence and a thorough knowledge of the aims to be attained. During the years of the Civil War, the great demand for surgeons and nurses on the part of the government increased enormously the call on all medical schools. The Long Island College Hospital, natural, with others, by this sudden increase of affairs, it was one of the few private hospitals on which the government called for assistance when its war hospitals were overflowing with sick and wounded soldiers. It commenced to receive them immediately after the seven days' fight, on the Peninsula, before Richmond; and, from that time till the close of the war, there was always a considerable number of government beneficiaries within its walls.

impelled by enthusiasm for their profession, and by love for their suffering fellow-beings, stepped forward and offered to continue the work at their own individual expense and risk. These men were Drs. THOMAS L. MASON, Wm. H. DUDLEY, and CHAS. W. L. MITCHELL. Dr. Mason's connection with the institution was permanent, and only by his death, a few years ago, while Drs. Dudley and Mitchell are still members of the Council. Their offer was accepted; they took charge of the entire management of both hospital and school; and, by the successful manner in which they carried through the task, proved themselves the benefactors of the human race. By inspiring others with at least a part of their enthusiasm by which they were actuated, they succeeded in raising among themselves and their friends a sufficient amount of capital to pay off the entire debt; they obtained from the city of Brooklyn assistance in the shape of an annual appropriation.

priation for the Hospital and Dispensary, and matters began soon to mend.

In 1866, it was found necessary to increase the means which the institution possessed to do its work. In that year, a new three-story wing, 32x65 feet, was erected on the grounds fronting on Pacific street, intended principally for female patients. The faith shown by its erection did not prove a false one; prosperity followed the hard struggles of previous years. In 1870, the wooden buildings fronting on Amity street were supplanted by the erection, in their place, of a three-story building, 128 feet long, by 32 feet wide. The western part of this building contains three large, splendidly lighted and ventilated wards for the hospital, each 30x50 feet, with the necessary bath-rooms attached; in the eastern part, there is an amphitheatre for the use of the school, with a seating capacity of 300; a dissecting room, a number of professors' rooms, etc. The demand which the ever-increasing popularity of the hospital, and the daily wider-spreading reputation of the college created, obliged the addition, in 1874, of another story to the greater part of the Amity street wing, in order to make room for a new dissecting hall.

In 1875, the frame gate-building on Pacific street was replaced by a brick building, 32x40 feet, containing a janitor's residence, a smoking room for the patients, and a number of isolating wards. But the greatest improvement was reserved for the summer of 1881, when the two one-story wooden wings, which formed the connecting link between the centre building and the brick buildings, on Pacific and Amity streets, were removed; and, in their place, were erected two three-story brick buildings, with an additional story on the centre building, and two four-story towers on the Henry street front. These towers contribute, in a large degree, to the convenience of the interior arrangements, and perhaps, to a still greater extent, to the appearance and the beauty of the whole line of buildings.

These different improvements cost more than \$100,000; and the Long Island College Hospital is to-day, in proportion to its size, one of the best arranged hospitals and colleges in the land. The improvements supply an additional, lecture-room, well lighted and ventilated, seating 300 students; a chemical laboratory, fitted up with the latest improvements, and another devoted to histological researches; a number of recitation and operating rooms, and a suite of chambers intended for the private use of the members of the faculty. In the Hospital proper we find a new surgical ward, 42x30 feet, to be used principally for the treatment of the large number of accident cases brought daily to the hospital from the neighboring docks and factories; a medical ward, 40x40 feet, accessible on all four sides to the direct action of the air; also a number of small private rooms for the use

of patients who desire greater isolation and privacy than the general wards afford. The Long Island Hospital has thus supplied a place where a stranger, falling sick in this city, need have no fear that he will be on that account deprived of all the comforts which he would enjoy at home. We also find in the hospital new offices and reception rooms for the use of the Regent and the Warden; a reception room for patients, who apply merely to have wounds dressed, but are not so much injured as to make their stay in the hospital a necessity; a laundry and kitchen, with ample store-rooms and dining-rooms. On the ground floor of the wing north of the center building, on Pacific street, is the Dispensary, containing two large waiting rooms for patients; separate toilet rooms for men and women; a room for the dispensing of drugs, and twelve private consulting rooms, each one fronting on the outside of the building and enjoying a most ample supply of light and air. Gentlemen of prominence in their profession attend daily in these rooms, and treat not only the ordinary medical and surgical complaints, but also all the special branches of medical science.

The Hospital proper now contains 175 beds; diseases of all kinds are received, with the only exception of those of a contagious or infectious character, and of diseases of the mind, when the same are not the direct result of a diseased condition of the body. If the Hospital excels on account of any one branch, it is for the great number of surgical cases, especially cases of a capital character, which it treats. That portion of Brooklyn in which it is situated contains, perhaps, a greater number of warehouses, factories and docks, than any other part of Brooklyn or New York; the factories are filled with the most complicated machinery; at the docks vessels are always discharging or loading; and, as a necessary consequence of these industries, numerous and serious accidents to life and limb happen daily; it can not, therefore, excite wonder that the surgeons of the institution find in its immediate neighborhood an enormous field for their activity and skill. The number of cases treated in the hospital in 1883 was 2,557.

In the Dispensary, nearly 15,000 persons are treated in the course of the year, who pay between 25,000 and 30,000 single visits. There is no charge for medical attendance in any part of the Dispensary; the only condition of admittance to its benefit is, that the persons applying are in want of medical advice and can in no other way obtain it.

The *Medical College* connected with the Hospital was the first in this country to introduce clinical teaching at the bedside of the patient; this method of teaching has continued ever since one of its most distinguishing features; and the close connection between hospital and college has enabled the managers to mature and elaborate the original plan to an extent which is deemed unequalled by any other school in this country. With

this method of teaching. In later years, the graded system of instruction has been utilized, a good step to advance, as it enables the junior student to confine himself to the primary branches, whilst the senior classes can devote their time to the higher studies.

There are two terms each year, the "Preliminary Term," principally intended for less advanced students, commencing at the end of September and ending with the beginning of the "Regular Term," which now opens on the 1st January each year and continues for five months; the number of students at the regular term of the winter of 1882-83, was 154; the number of graduates, 70. Since the beginning of the present the number of graduates is 893, and they are now found not only in all parts of the United States, but also in the adjacent and even distant foreign countries.

On account of the great number of accidents happening in the neighborhood, the Board of Health stationed an Ambulance Surgeon in the Long Island College Hospital, when the ambulance system was first introduced in Brooklyn. A number of physicians and surgeons are also permanently stationed at the hospital, who, in addition to their other duties, are ready at any time of the day or night to take charge of severe cases which are taken there, and prescribe for them, until the regular visiting staff can be summoned.

In order to derive the fullest benefit from the great improvements made two years ago, the managers introduced, on their completion, the system of *training* nurses and physicians. Each of these classes of persons can receive a thorough education by practical instruction at the bedside, and, also, by lectures delivered by the professors attached to the college. There is but one other training school in this country—in the city of Cincinnati—where a similar close connection between hospital and college places at the disposal of the managers so complete a corps of instructors and lecturers, of thorough training and long experience in the profession of teaching. At the head of the Training School of the Long Island College Hospital a graduate of one of the leading New York schools, of long experience in her profession, has been placed.

competent nurses for the requirements of the hospital; and also sends them out for employment in such private families as may have occasion to avail themselves of their services.

The Long Island College Hospital received, formerly, a small annual appropriation from the state; but this was cut off, when the new Constitution forbade the appropriation, by the Legislature, of moneys to private corporations. The Hospital receives, from the city of Brooklyn, \$4,000; the Dispensary, \$1,500 per annum; all other expenses beyond these two amounts, so far as they are not covered by the moderate income derived from pay patients, are borne by the managers and their friends.

The management of the institution is in the hands of a Board of Regents, consisting of 25 members, elected in the same manner as are the trustees for five years. In all professional matters, the "Council," consisting of not less than four, and not more than ten members, who hold their appointments during good behavior, act as an advisory board to the Regents. There is also a Faculty of the Hospital and a Faculty of the College, who form, with the Council in their respective departments, a "Joint Board," and submit to the Regents such plans for the improvement of the institution, as they may jointly mature, but no changes or additions can be made unless approved and ordered by the Regents. The Regents have also the power to grant and confer the degree of Doctor of Medicine, upon the recommendation of the Council and Faculty of the College.

The first Board of Overseers consisted of Samuel Sloan, *Pres.*; Samuel W. Sloan, *V. Pres.*; C. C. Dever, *Treas.*; C. N. Boyce, *Sec.* Samuel Sloan continued President until March 28, 1864, when he resigned; and Theodore Polhemus, Jr., was elected in his stead. On the death of Mr. Polhemus, he was succeeded, in May, 1865, by Joseph Ripley, who continued in the presidency until May, 1866, when he resigned, on his removal from Brooklyn; and was succeeded by John J. Van Nostrand. The latter acted till April, 1875, when he resigned; he was followed by Thomas H. Rodman, who still occupies the position.

The present OFFICERS are: Thos. H. Rodman, *Pres.*; R. O. W. Rogers, Jr., *Vice-Pres.*; Francis E. Dodge, *Treas.*; Wm. J. Osborne, *Sec.*; Wm. H. Dudley, M. D., *President of the College Department*; Paulway S. Apple, Army M. D., U. S. A., *Head of the Faculty*; Professor Jarvis S. Wight, M. D., *Registrar*.

Council: William H. Dudley, M. D., *Pres.*; Chauncey L. Mitchell, M. D.; George G. Hopkins, M. D.; John L. Zabriskie, M. D., Joel W. Hyde, M. D., *Sec.*

The Long Island College Hospital, and the Long Island College Hospital Dispensary, form but one corporate body, and have, therefore, but one set of officers.

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can for the support of a city hospital. This institution was called, from its location, the Adams Street Hospital. Dr. Mason was made Senior Surgeon and President of a Board of Managers, who, by their enthusiasm in the matter, demonstrated the utility of the hospital. But a change in the city's administration put a stop to the work, and the institution was closed. The good accomplished by this attempt was not lost however, and Dr. Mason was consulted by charitable citizens, with a view to the organization of a new hospital; the liberality of a private citizen rendered the plan feasible and the latter was begun. Dr. Mason was influential in the framing of the charter and selection of the Board of Directors and medical staff of the new institution. As Senior Surgeon he labored in this hospital work till failing health compelled his resignation. As time passed, and the growth of Brooklyn became an assured fact, several of the leading physicians of the city, among whom was Dr. Mason, conceived and carried out the idea of establishing a hospital and medical school, and in 1858 the Long Island College Hospital was organized. Dr. Mason was elected president of the collegiate department, and by successive re-election held that office until within a year of his death; in all, a period of one and twenty years. Early identified with the movement to effect a change in the then defective sanitary regulations of New York city and Brooklyn, Dr. Mason was a member of a committee of the "Citizens' Association of New York," that visited the Legislature of 1864 to advise and aid in the effort to secure the Metropolitan Board of Health. But perhaps the greatest labor of his life was the vindication of his belief that inebriety is a disease. His attention was called to the subject early in his professional career, and he spoke and wrote almost constantly on the subject. Among his many monographs on the topic, one address—*Inebriety a Disease*—was published and circulated, not alone here, but in other States and countries, and in Great Britain was largely quoted in favor of the establishing of inebriate asylums there. By his efforts the Inebriate Home for Kings County was chartered in 1866, and until his death he was President and Consulting Physician of that institution. He was one of the founders of the American Association for the Cure of Inebriates, was elected President of that body in 1875, and held the office for several years. Dr. Mason was a member of the Kings County Medical Society from 1834 till his death, and was its president in 1842-'43; a permanent member of the State Medical Society; of the American Medical Association; of the International Medical Association, held in Philadelphia in 1876, and a Resident Fellow of the New York Academy of Medicine. He was one of the founders, a life member and director, of the L. I. Historical Society, and in 1874 was elected Vice-President of the American Colonization Society. His long and useful life ended February 12, 1882, by an attack of pneumonia.

WM. HENRY DUDLEY, M. D., of Brooklyn, was born in Ireland in October, 1811, of English parents; his father was Sheldon Dudley; his mother, Elizabeth Evans Dudley. His early education having been completed in his native country, he chose the medical profession for the pursuit of his life, and entered the Royal College of Surgeons in Dublin in 1831. Graduating from there in 1833, his desire to see the world induced him to accept a government appointment in the West Indies, and he left in the same year for Jamaica, where he was appointed Health Officer and Surgeon to the Marine Hospital at Port Maria. Whilst holding that office he was elected a fellow of the Kings College of Physicians and Surgeons of Jamaica. During his stay in the island he married Emily W. Fitzgibbon; in 1841 he came with his wife on a visit to this country, and decided soon after on permanently

remaining here, where he had made himself acquainted with the much greater opportunities presented for the practice of his profession. In 1842 Dr. Dudley received a diploma from the College of Physicians and Surgeons in New York; in 1843 he settled in Brooklyn, and made that city his permanent home.

In 1851 he was elected one of the Curators of the New York Medical College, and served in that capacity for several years; he was also elected a permanent member of the Medical Society of the State of New York, and took an active part in the establishment of the Long Island College Hospital; and, later in that of the St. John's Hospital, of which organization he has been from the beginning the professional adviser of the Executive Committee.

In 1859 his wife died; he married again (in 1861), Charlotte G. Duckwitz, of Brooklyn, by whom he has three children, one daughter and two sons, the elder of whom has chosen the profession of his father, while the second is studying for the law.

Eversince coming to this country, Dr. Dudley has steadfastly declined to be a candidate for any office for which medical men are generally chosen, or even to accept a nomination for a position strictly within the medical profession, when his doing so might interfere, in the least, with his private practice. His axiom was always, that he belonged to his patients, and that anything which tended to divert his attention from them to other matters or other pursuits, was an injustice to those who placed their health and their well-being in his care. When we consider this leading principle of his life, we are not astonished at the great and rare success which he has achieved as a practitioner; nor do we wonder at the love and veneration which is felt for him by those whose families he has visited in the dark hours of sickness, giving them not only the benefit of the great resources of his profession, but becoming to them a friend, such as is never more needed than in the hours of sickness and adversity. If Dr. Dudley has deviated, in one thing, from his great principle of living only for his patients, it is in his connection with the Long Island College Hospital. He took a leading part in its organization at a time when his ordinary pursuits were perhaps not sufficient to divert his mind from a great loss he had sustained. He was one of the original members of the Council, and was also elected to the Board of Regents, when a change in the charter made medical men eligible thereto. In 1881, on the resignation of Dr. Theodore L. Mason, he was elected President of the Collegiate Department and he fills that position to this day. From the day when the institution was called into existence to the present moment, Dr. Dudley has not only largely contributed to its financial support, but he has also watched over it and its inmates with a fatherly, never-failing and never-tiring care. And, if the Long Island College Hospital is to-day in a flourishing condition, and a great future before it, it is principally owing to him. He never despaired in the darkest hour, and never lost his faith in the final success of a work which has almost become a part of himself.

CHAUNCEY L. MITCHELL, A. M., M. D.—In the long list of Brooklyn's eminent physicians, no name stands higher than that of Chauncey L. Mitchell. For nearly forty years, from a time when the city scarcely had outgrown its village stage, until it stands third in the Union in population, with corresponding accessions in wealth, intelligence and whatever goes to make up a great community, he has pursued here his chosen profession, with untiring industry, unflagging zeal, and rare success.

Dr. Mitchell was born in New Canaan, in the State of Connecticut, on the 20th of November, 1813. He is of Puritan



Wm. L. City



Wm. A. A. A.

deceit, but arose from the fact England, landed in Boston, August, 1810, and some time continued in this country, nearly two months, and a host. His father, Merrill Mitchell, was an able and accomplished lawyer, but formerly a member of the Bar of Washington county, New York. His mother, Anne Lucile Sullivan, was a member of the same firm, whose talents were not less abundantly in the literary and scientific history of the country. It may have been the fir, hereditary tendency to the display of intellectual activity, acquired from both his parents and the natural one, that the subject of biography could read fluently at the age of three years, and that at the age of seven he was studying Latin. He was sent to the New Canaan (Connecticut) Academy, where he remained two or three years, partly for domestic education, until their completion, at the age of twelve years. Two more years were passed at other like institutions, and the next four in studying law under his father's supervision. Having acquired a suitable amount of scientific studies, he returned to his private tutor, such others as were necessary were completed, and he entered the junior class in Union College in 1831. His standing in all departments during his collegiate life was among the first, and at the end of the course he was reported class orator. He was honorably graduated in 1835.

Of the learned professions, for one of which his father had destined him, he selected that of medicine, and the wisdom of the choice is fully proved by a conspicuous success, which could have been achieved only with the aid of a singular mental adaptability to the work, and the time and special training which he brought to it.

In order to secure this training, for which a liberal education had furnished a broad foundation, he began the study of medicine and surgery, and was matriculated at the College of Physicians and Surgeons of the city of New York. The thoroughness and zeal which have characterized his whole career, especially marked this period of it. He studied under Professor Joseph M. Smith, whose intelligent and stimulating instruction perhaps never met with heartier, more sympathetic, or more fruitful co-operation. An economist of time and a niggard of recreation, the student found his chief pleasure in books and demonstrations; and early morning and late night found him at his work. In this early experience, and these severe labors, such as few care to encounter, and fewer still are able to bear, the future practitioner, with patient painstaking, marked out the lines of his remarkable professional success.

When Dr. Mitchell was a student, the opportunities for scientific education in this country were far more limited than they now are. Therefore, after he had received his degree from the New York College of Physicians and Surgeons in 1836, he resorted to the expediency, and his present of opportunity, of continuing his studies abroad. Accordingly, in 1837, after a full term of service as walker and resident physician in the New York Hospital, he sailed for Europe. The next two years were spent in England and on the Continent, most of the time in Paris, where he improved, to the full, the teaching of the great professors gathered there, and of the then unequalled school of the French hospitals.

Upon his return to the United States in 1839, he began practice in the city of New York. He also formed a connection with the Northern Dispensary, then located in Fourth street, where he was associated with Dr. Cammann in the department of Diseases of the Heart and Lungs. Not long after he was elected to the Presidency of the Association of the Castleton (Vermont) Medical College. The duties of this position put in the study and of the specialty which had

attracted his attention in Europe. The object which he had in mind, he could only share the enlarged knowledge from others, but to push his special knowledge to its utmost limit.

In 1841, Dr. Mitchell transferred his practice from New York to Brooklyn, where he rapidly rose to prominence among his local contemporaries.

The more important part of the history of Brooklyn has been made during Dr. Mitchell's life and work in it. Almost all of his public contributions of significance and value have been born and have matured within his observation, and to the fulfillment and maintenance of some of them he has contributed time, labor and money, unostentatiously but bravely. For some years he has been a member of the Kings County Medical Society, serving for three terms as its President, and been always actively concerned in its management. He is a member also of the New York Academy of Medicine, of the Physicians' Mutual Aid Association, and of the society for the Relief of the Wounded and Oppressed of Manual Labor. He belongs to the first Board of Visiting Physicians of the Brooklyn City Hospital, and was one of the founders of the Brooklyn Dispensary, and of the Long Island College Hospital. He is still a member of the Council of the latter and of its Board of Regents. He is a consulting physician of St. John's Hospital, and of the House for Aged Men. He has represented the Kings County Medical Society in the State Medical Society; was a delegate to the National Convention, which formed the American Medical Association, and for several years represented in the latter the Kings County Medical Society. He is also a member of the American Academy of Medicine.

Dr. Mitchell was among the original members of the Long Island Historical Society, and is still, as he has been for years, one of its trustees.

While he has long been a conscientious and consistent professor of religion, he lays more stress upon a practical Christian life, and is a severe and critical judge of his own conduct in that relation. He is a member of the Church of the Pilgrimage (Dr. Starr, Pastor), and was one of its founders.

As a professional man, in public affairs, Dr. Mitchell comes to his conclusions after mature deliberation, and his conclusions, when formed, are strong and earnest. He is not a politician, but is an attentive observer of the affairs of the City, State and Nation, and has decided opinions, to which, upon matters of proper importance, with boldness and candor. He is, however, above all things a professional man, and the steadfastness with which he has put his chosen calling before other interests, largely explains his mastery of it. His methods are conservative and systematic, rather than radical or innovating, but he is fully abreast of the bearing of the times, and his patients never fail to get the benefit of his skill and experience.

Among his friends, Dr. Mitchell is a courteous and unassuming man, and as a citizen, he is generous, patriotic, spirited and influential.

He has been twice married. In 1840, to Catherine L., daughter of Dr. J. J. Landon, Esq., of Eastham, Vt.; in 1860, to Frances E., daughter of Benjamin Wright, Esq., of Rome, Oneida county, N. Y.; and, in 1875, to Kate M., daughter of J. M. Van Cott, Esq., of Brooklyn, N. Y.

St. Mary's General Hospital, under the charge of the Sisters of Charity, St. Mary's nursing hospital, Richmond, and East Side Dispensary, in the city of New York, and the hospital, namely, St. Mary's General Hospital, incorporated in 1885, and situated at 117



ST MARY'S GENERAL HOSPITAL.

Clinton street. The plot of ground on which the building stands—being an entire block, with a frontage on St. Mark's avenue of 700 feet, and running along Buffalo and Rochester avenues 225 feet to Prospect place—was purchased by Right Rev. Bishop Loughlin, in 1878. The corner-stone was laid on October 18th, 1879; and the present structure, the western wing—(about one-third the entire building), extending 165 feet on St. Mark's avenue and 225 feet in the direction of Prospect place—was formally thrown open to the public on December 17th, 1882; though owing to numerous applications, it was found necessary to admit many patients, principally surgical, during the three or four weeks preceding.

The hospital, as it now stands, can accommodate from 250 to 300 patients. The architect was P. C. Keely.

The incorporators, constituting the Board of Trustees, are: Right Rev. Bishop Loughlin, Rev. E. J. O'Reilly, Jno. D. Keiley, Jr., John J. Kiernan, Dr. John Byrne and James Clyne, together with three members of the order of St. Vincent de Paul, all of the city of Brooklyn.

In the fall of 1882, the present structure being near completion, the Trustees confided to Dr. John Byrne the responsible duty of effecting such a professional organization as he deemed most consistent with a thoroughly practical working of the institution, and one worthy the largest hospital in the city.

To this end Dr. Byrne summoned to his aid a number of the leading physicians and surgeons of Brooklyn, to whom he submitted his views, the main novelty of which consisted in his proposition to make this a hospital of specialties, and thus not only the better promote the interests of suffering humanity, but supply a long-felt want, and at the same time meet the cordial approval of the entire profession.

The result of repeated conferences was the nomination of the following gentlemen, who constitute the present faculty, and whose appointments were duly approved and confirmed by the Board of Trustees:

CONSULTING STAFF.—*Surgeons:* Jarvis S. Wight, M. D.; John S. Andrews, M. D. *Physicians:* Alex. Hutchins, M. D.; Avery Segur, M. D.; Edward Malone, M. D.; William Wallace, M. D.

FACULTY OF THE HOSPITAL.—John Byrne, M. D., M. R. C. S. Ed., Dep. of Gynecology and *President of the*

Faculty. Frank E. Rockwell, M. D., Dep. of Genito-Urinary Surgery; Samuel Santoire, M. D., Dep. of Diseases of the Joints; Charles Jewett, M. D., Dep. of Diseases of Children; George R. Fowler, M. D., Dep. of Fractures and Dislocations; Benjamin F. Westbrook, M. D., Dep. of Diseases of the Thorax; George R. Kuhn, M. D., Dep. of Diseases of the Abdominal Viscera; Joel Wilbur Hyde, M. D., Dep. of Obstetrics; Landon Carter Gray, M. D., Dep. of Mental and Nervous Diseases and Electro-Therapy, and *Secretary of the Faculty:* Arthur Matthewson, M. D., Dep. of Diseases of Eye and Ear; William E. Griffiths, M. D., Dep. of Diseases of the Skin.

ASSOCIATE VISITING STAFF.—J. C. Schapps, M. D.; J. C. McEvitt, M. D.; Walter J. Corcoran, M. D.; Geo. R. Westbrook, M. D.; G. V. P. Convery, M. D.; J. A. Ray, M. D.; Herbert S. Williams, M. D.; Louis Kuhn, M. D.; Glen D. Butler, M. D.; John D. Sullivan, M. D.; Charles H. Terry, M. D.; A. J. Dower, M. D.; John Harrigan, M. D.; Joseph E. Smith, M. D.; Isaac H. Platt, M. D.; Charles H. Johnson, M. D.; J. Y. McGay, M. D.; Joseph A. Kene, M. D.; W. J. Brandt, M. D.; J. F. O'Connell, M. D.; Thomas A. Joye, M. D.; Job Corbin, M. D.; A. W. Ford, M. D.

Thomas R. French, M. D., *Consulting Laryngologist*; Alexander H. P. Leuf, M. D., *Pathologist*; Joseph H. Hunt, M. D., *Curator and Microscopist*.

RESIDENT STAFF.—C. E. Dority, M. D.; F. G. Curtis, M. D.; F. E. Tieste, M. D.; B. J. Hammill, M. D.

St. Mary's Hospital is non-sectarian in the strictest sense of the term, neither creed nor color being an obstacle to admission; and, while there are a large number of well-furnished private rooms for both sexes, and wards for patients whose means permit of a moderate compensation for board and treatment, yet the average proportion of free patients is not less than 80 per cent. It is supported, thus far, wholly by voluntary contributions. A commodious ward has been set apart for children's diseases. There is also an efficient ambulance service.

The clinical work of the hospital, both medical and surgical, is open to the entire profession. It is in contemplation to organize an out-door department to meet the wants of this out-lying district, so soon as the necessary means can be provided.

JOHN BYRNE, M. D., M. R. C. S. Ed., Brooklyn, N. Y., was born at Kilkeel, in the county of Down, Ireland, October 13, 1825. His father, Stephen Byrne, who was an extensive and successful merchant, sent his son, at an early age, to a leading classical seminary at Belfast. In his thirteenth year he became the pupil of a celebrated classical and mathematical preceptor, Rev. William Craig, a Moravian minister, in his native town. Having thus received a thorough preliminary education, he commenced the study of medicine as a pupil of Dr. Daniel Murray, a prominent general practitioner, in Belfast. He matriculated at the Royal institution of that city in 1842, where he completed his first "annus medicus," comprising, in addition to practical pharmacy and chemistry,



Very truly yours
J. H. M. M. C.

lectures on anatomy and physiology, hospital attendance, and dissections; such course being recognized and regulated by the curricula of the various British colleges. During the succeeding five years, his professional studies were pursued in the Universities of Dublin, Edinburgh and Glasgow, the last session having been spent in Edinburgh, where he graduated in 1846. His professional career was first brought prominently to the charge of a temporary fever hospital in that country, during an epidemic of typhoid in 1846-47. His selection for the discharge of the duties attached to this responsible position, was based mainly on his unusually large hospital experience, amounting to over four years' actual attendance. By the introduction of important sanitary measures, and the systematic general management of this institution, the mortality during his service was remarkably reduced, so much so as to call forth flattering comments from British government officials, and a handsome testimonial from the local public authorities. He emigrated to the United States, and settled in Brooklyn in 1848.

In 1853, with a view to enlarge his professional associations, he graduated at the New York Medical College, then located in East Thirteenth street. He was one of the originators and active founders of the Long Island College Hospital in 1856.

An extensive general practice of fifteen years found him in 1860 eminently qualified to adopt any one of various departments of medicine or surgery as a specialty, and he selected diseases of women as the branch most congenial to his tastes.

In 1868, through the assistance of a few charitable and public-spirited citizens, and the co-operation of the Sisters of Charity, he organized St. Mary's Female Hospital in Dean street, to which he was appointed Surgeon-in-Chief, which position he still holds. Within a few years, however, the accommodations having been found entirely inadequate to the increasing demands of that class of sufferers for whose special benefit the institution was established, the construction of St. Mary's General Hospital was decided on, and the building commenced in 1879.

On account of the widespread reputation obtained by the former institution, through his untiring efforts and the active co-operation of his professional associates, the incorporators and trustees of the new enterprise entrusted to him the organization of its present medical and surgical staff.

He is the author of several able papers, and numerous periodical contributions on subjects connected with gynecology, besides monographs, prominent among which may be mentioned, "Researches and observations on Pelvic Hæmatocele" (1862); "Clinical Notes on the Electric Cautery in Uterine Surgery" (1872); "Amputations and Excisions of the Cervix Uteri," etc. (1877).

He has given considerable attention to the science of electro-physics, and to his experimental researches in this department the profession is indebted for the very complete galvanocautery apparatus which bears his name.

He is a fellow of the New York Academy of Medicine; member and late president of the New York Obstetrical Society; fellow of the American Gynecological Society; late Clinical Professor of Uterine Surgery in the Long Island College Hospital; member of the American Medical Association; member of the New York State and Kings County Medical Societies; Surgeon-in-Chief to St. Mary's Female Hospital, and Surgeon-in-Chief to department of Gynecology, and President of the Faculty of St. Mary's General Hospital.

The Methodist Episcopal Hospital.—Upon the high land on the block between Sixth and Seventh streets and Seventh and Eighth avenues, stands the

new hospital, which Mr. George J. Seely presented to the denomination. The central building fronts on Sixth street, and is 140 by 140 feet, and has stories in height, the roof being in that of the Roman cross; the central or main body had a black exterior, with trimmings of brown stone. It is entirely fireproof, has only a wooden roof. The hospital is intended to accommodate about 300 patients. There will be two story pavilions on the back of the main building, and other buildings to be used as wards. There will also be six smaller detached buildings, including a mortuary chapel, dissecting-room, engine-house, etc., which are not yet built. The buildings are constructed on the most approved plan, and in accordance with the latest American systems and medicine.

St. John's Hospital. See our notice of *The Church of Christ, First Church*.

The Brooklyn Eye and Ear Hospital was established April 1876, 1881, at the corner of Washington and Johnson streets, by a number of benevolent citizens. Its success exceeded their most sanguine expectations, and spacious accommodations were soon needed, and the fine brick building, No. 100 Washington street, having been purchased and fitted up for the reception of patients, was opened on the 20th of April, 1882.

It was established as a purely benevolent institution. Year by year its work increased, till, in 1881, larger accommodations were found indispensable, and the Juvenile High School building, 100 Livingston street, was purchased at a cost of \$5,000 and converted into a hospital.

Since the establishment of this hospital more than 10,000 cases have been treated, and this work has been ably performed. Clinical instruction has been given daily in this institution, to such medical students as have chosen to avail themselves of it.

S. B. Chittenden was *President* of the hospital from its establishment until 1882. The present officers are: E. R. Spiller, *President*; C. D. Robbins, *Vice-President*; A. D. Woodcock, *Treasurer*; F. H. Colton, M. D., *Secretary*; Chas. Mayo, *Superintendent*.

Brooklyn Home for Consumptives.—Early in the summer of 1881, half a dozen philanthropic ladies and gentlemen of Brooklyn sent out a call to the benevolent people of the city to meet in the parlors of Plymouth Church, to consider the great need of a home for consumptives. It had been found that the doors of all hospitals were closed against this class of sufferers, and that the poorhouse relief was inadequate to them. The proposed project was opposed to the board of the law who issued the call, and who were justified by the reports of about 800 persons, mostly ladies, from various churches in the city. This meeting was followed by others of increased numbers, resulting in a speedy and permanent organization. It was resolved not to limit this new enterprise by making an asylum

for one class only, but to found one home in the city whose doors should be broad enough to admit any one, irrespective of creed, color, sex or nationality; and further, not to restrict it to consumptives only, but to admit to its consolations such other sick as might be unable to find entrance elsewhere. Therefore, in due time, the society was incorporated, under the name of the *Garfield Memorial Home*, with a charter wherein the declared object was to provide a comfortable home for invalids, especially consumptives.

An ordinary dwelling house on Washington avenue was rented by the society in August, 1881. A matron was secured, one nurse and one steward. The house was soon filled; and, from the very first, need was felt of more room. In April, 1882, the trustees purchased the building now occupied, at No. 219 Raymond street, where there are beds for twenty-nine patients, each fitted with a wire woven mattress and hair mattress above. This seemed a real necessity, so emaciated is this class, and often long confined to their beds. To most of them such a luxury was beyond anything hoped for. Food of the most nutritious kind is furnished, the one item of milk amounting to thirty or forty quarts per day.

It is just to say that this institution owes its existence to Rev. S. B. Halliday. For a long time he gave not only his money but himself to it. Without his efforts it would not have been. The Fruit and Flower Mission have remembered it with their pleasing charity. Several persons have furnished rooms in the building; and, in one case, Dr. Scudder's Church has furnished an entire ward. The physicians, who represent both the Homœopathic and Allopathic schools of medicine, have rendered their services gratuitously, and religious services have been held regularly at the home.

Keith Home, for Nervous and Mental Diseases, No. 883 St. Mark's avenue, Brooklyn, N. Y.—May 1, 1874, Mrs. Lydia Keith, who had been for several years an instructor in the Massachusetts School for Feeble-minded Persons, opened a home at the corner of Madison street and Tompkins avenue, for the care and treatment of feeble-minded persons, and those who suffer from nervous diseases. The new home had accommodations for six patients. Dr. Jerome Walker, a specialist in the diseases of children, was made consulting physician. In 1876, Dr. John C. Shaw, a specialist in nervous and mental diseases, was also made a consulting physician; and, in 1878, the institution was removed to its present location. During the first five years, 24 patients were treated at the Home. In 1879, the Home was removed to its present location, and entitled the Keith Home. In 1880, a license to receive insane patients was granted to Mrs. Keith, by Dr. John Ordronaux, the State Commissioner in Lunacy.

In May, 1880, Dr. Archibald Campbell, formerly of the Flatbush Insane Asylum, was appointed resident physician of the Home, Drs. Walker and Shaw, still acting as consulting physicians. Since then, the Home

has received cases of acute and chronic insanity of a mild type, and also patients suffering from nervous affections. The capacity of the Home was limited to 15 patients, and none but females are received. It is not a benevolent institution; derives no pecuniary aid from any city, county or state fund; and, therefore, does not receive any "charity" or indigent patients.

During the past four years, 35 patients, mostly incurable, have been admitted. Present BOARD OF OFFICERS: Mrs. Lydia Keith, *Manager*; Archibald Campbell, M. D., *Resident Physician*; Jerome Walker, M. D., and John C. Shaw, M. D., *Consulting Physicians*.

The Brooklyn City Dispensary (incorporated March 5, 1850), commenced operations August 10th, 1846, at first in the old Jackson house, in Hudson street, near Lafayette street; and, a few years after, obtained the use of one of the basement rooms of the City Hall, where they remained until the city officials, having a wholesome dread of contracting some contagious disease, agreed to pay the rent of the institution if removed to some other place. The back compounding-room of Bailey's drug store, No. 269 Washington street, was its next refuge; then the first floor of No. 107 Pineapple street, the whole of which was finally absorbed by its increasing demands; and, finally, by the exertions of the president, Thomas Clarke, and the trustees, sufficient money was raised to purchase and furnish the premises on Tillary street, between Fulton and Washington streets. This building—of brick, 25 by 45 feet in size, most admirably arranged and equipped for its specific uses, and attended daily by an energetic and faithful corps of experienced physicians and surgeons, with a resident apothecary, full set of instruments, apparatus, etc.—presents a most striking contrast with the condition of the institution when living here and there, in basements and hired houses; when the attending physicians were obliged to use their own private cases of instruments, and often pay for medicines themselves; when the patients were all sent to some convenient drug store, where the druggist was allowed five cents for each prescription made up for them; when Mr. Arthur W. Benson, B. W. Delamater and others of the trustees, carried on the dispensary, for months at a time, out of their own private means. The City Dispensary has trained many prominent physicians for the useful positions which they afterward occupied in the public estimation.

In 1883, there were 8,995 different persons who received gratuitous medical treatment at the dispensary—5,741 females and 3,254 males, 4,614 being natives of the United States—to whom 14,338 prescriptions for medicine were supplied free of charge.

TRUSTEES: John J. Studwell, Robert S. Bussing, Alexander Forman, Aaron L. Reid, John M. Knox, Jr., Samuel Rowland, Chas. E. Bell, Jr., John N. Quirk, Charles M. Field, Frank Lyman, Frederick Cromwell, J. H. Armington, Alexis C. Smith, W. W. Henshaw,

Charles Griffen, R. S. Bussing, Jr., John D. Chase, James W. Elwell, George I. Sney, William M. Thomas, Henry Rowland, Arthur W. Benson, George W. Mead, Thomas Clark, Jr., Frank S. Bussing.

OFFICERS, 1881 (all of whom have served continuously for sixteen years): William W. Henshaw, *Pres.*; Aaron L. Reid, *First Vice-Pres.*; John S. Quirk, *Second Vice-Pres.*; Robert S. Bussing, *Sec.*; John J. Studwell, *Treas.*

MEDICAL STAFF: Dr. J. B. Jones, department for treatment diseases of females; Dr. W. F. Swain and Dr. John Merritt, heart, throat and lungs; Dr. N. A. Robbins and Dr. E. A. Lewis, surgical cases; Dr. F. Hoyt and Dr. L. Criado, nervous and digestive diseases; Dr. W. E. Spencer and Dr. L. McPhail, diseases of children; Dr. A. W. Brewster, eye and ear diseases; Dr. A. Haslett, skin diseases; Dr. N. A. Robbins, (this department established in 1857) teeth and vaccination. Dr. N. A. Robbins, *Apothecary*.

The Brooklyn Central Dispensary was opened August 1st at Flatbush avenue, near Nevins street, and incorporated August 7th, 1855. Its founders were: Josiah West, Jas. Van Dyck, Wm. Swift, Wm. B. Dodge, Thos. L. Magagnos, Wm. H. Hallock, Alex. H. Curtenden and D. Tompkins Gray. It was subsequently removed to its present location, 312 Raymond street. It is doing a good work, and is managed by a BOARD OF TRUSTEES comprising (1882-'3) Jos. S. Spinney Col. M. Bennett, W. B. Meddow, Jas. Burke, Wm. E. Hines, John H. Ireland, N. H. Clement, Hugh Boyd, Theophilus Olena, Lowell Talbott, George V. Brower, Dr. Isaac H. Barber, Edward Daly, Wm. J. Gelston, Benjamin Liniken, George L. Morse and Nathaniel Beggs.

OFFICERS (1882): Wm. E. Hines, *Pres.*; Dr. Isaac H. Barber, *First Vice-Pres.*; Geo. L. Morse, *Second Vice-Pres.*; N. H. Clement, *Treas.*; George V. Brower, *Sec.*

Woman's Dispensary and Hospital, 48 Debevoise place, near DeKalb avenue, was organized in October, 1881, and incorporated 1882. Mary A. Dixon Jones, M. D., in her extensive practice, observing the great and general suffering of women who could command the best medical skill, and surround themselves with every comfort that love and money could supply, was led to consider how intolerable were the sorrows and burdens of the many poor women of the city, burdened with the same physical ills, and yet wholly unable to command medical help, or one of the many comforts which go to alleviate the sufferings of their more favored sisters.

Dr. Jones tried to secure a bed in the New York Woman's Hospital for a needy Brooklyn woman, in May, but could not be accommodated until the next October. Impressed by these and other similar cases, of the great necessity for such a refuge for women in Brooklyn, Dr. Jones became a leader and most earnest worker in the establishment of this organization.

When the institution was first organized a dispensary was opened at 41 Raymond street, and was well patronized. Many most painful cases needed immediate hospital accommodations, and it became more and more evident that such must be provided, either by purchasing or purchasing a more suitable house. To avoid the close of the year an opportunity offered to purchase a temporary building, with basement, having twenty-four rooms, at 41 Debevoise place.

On the 10th day of January, 1883, the first patient was admitted. It is one of the special objects of this Hospital to take poor women and restore them to health and to capabilities of labor. The Board of Managers on the account of making yet more extended arrangements for the accommodation of these sick people. The Mission of the Dispensary and Hospital is to help suffering women and children. During the past year over 1,500 visits of the sick have been made to the Dispensary.

MANAGING BOARD—(Executive Staff): J. H. H. Burge, M. D., Frank W. Rockwell, M. D., John Byrne, M. D., Arthur Mathewson, M. D., *Surgeons*; Landon Carter Gray, M. D., Francke H. Bosworth, A. M., M. D., James Watt, M. D., Prof. B. F. Dawson, M. D., *Physicians*; (Medical Trustees): Mary A. Dixon Jones, M. D., W. B. Mathewson, M. D., A. H. P. Leuf, M. D., Charles N. D. Jones, B. S., M. D. *Dispensary Physicians*: Mary A. Dixon Jones, M. D., Wm. B. Mathewson, M. D., A. H. P. Leuf, M. D., John C. Lester, M. D., Chapin Minard, M. D. The Dispensary is open daily for the reception of patients. The dispensary building is in most thorough repair. The wards have been remodeled. Since January, 1883, one thousand patients have been attended to, at the Dispensary. OFFICERS (1883): Mrs. E. M. Sandford, *Pres.*; Mrs. Mary Lewis and Mrs. C. N. Hoagland, *Vice-Pres.*; Mrs. Geo. Stannard and Miss M. D. Jones, *Secretaries*; Mrs. P. A. Resseguie, *Treas.*

The Lucretia Mott Dispensary and Infirmary, No. 315 Atlantic avenue, Brooklyn, N. Y., was organized October 31, 1881, and soon after incorporated, to afford medical and surgical treatment of women and children, by women physicians. It first numbered seven members; now seventeen. Its TRUSTEES were: Mrs. R. H. Manning, Mrs. J. A. Goodenough, Mrs. E. A. Bourquin, Mrs. Anna C. Field, Mrs. E. G. Williams, Dr. Aaron Wright and Dr. E. S. Bunker. The work of the dispensary has largely increased and met with great success. OFFICERS (1881): Dr. Aaron Wright, *Pres.*; Mrs. R. H. Manning, *Vice-Pres.*; Mrs. E. G. Williams, *Sec.*; Mrs. J. A. Goodenough, *Treas.*; Mr. Nathan Goodenough, *Manager*.

Eastern District Dispensary.—In 1851, Captain Samuel Grove, a philanthropic gentleman, agitated the question of establishing a dispensary in Williamsburg. A few moderately successful meetings were held, and a small sum of money was collected. The result of

the meetings was that the lower rooms of the frame building on the north-east corner of South First and Fifth streets, were rented, and Dr. Harcastle opened the Williamsburg Dispensary on the 1st of September, 1851. The first physicians who treated patients at the dispensary were C. H. Schapps, E. N. Colt, T. Marseills and B. F. Bassett. Captain Grove remained president of the Dispensary Association until the time of his death.

After the annexation of Williamsburg to Brooklyn, the name of the dispensary was changed by substituting "Eastern District" for "Williamsburg." Captain Grove was an honest, earnest worker; but it was left for ex-Senator Strong, who has been president of the trustees for many years, to build up and enlarge the institution, and, consequently, increase its usefulness. To the ability and tact, combined with energy, which he brought to bear in the discharge of his duties as executive officer, much of the success of the institution is due. After the first few years of its existence, the building became too small to accommodate the large number who applied for relief.

In 1860, the three-story brick building at No. 165 Fourth street was leased from the city at a nominal rent, and was modestly fitted up. After a lapse of several years, a hospital department, containing eight or ten beds, was fitted up on the second floor for the reception of accident patients. Dr. Samuel Brady was the head surgeon, and he yet retains that position. An ambulance was also attached to the institution, and the young surgeon, with the steward, occupied the upper floor, where the cooking was done also. With the increase of manufacturing industries on the water front, including sugar and oil refiners, the number of accidents to workingmen also increased to such a large extent, that the building was altogether too small to accommodate them. Most of the patients had to be taken to the City and Long Island College Hospitals, until St. Catharine's Hospital, on Bushwick avenue (one of the finest as well as the most useful of Brooklyn hospitals), was established. The Eastern District patients were then taken there.

Several years ago, Mr. Strong succeeded in impressing the trustees of the Eastern District Hospital with the necessity of a larger building, suited to the growing population and the consequent increase of the number of patients.

Ground was purchased as a site on South Third street, below Fourth street; and, after much discussion and many delays, the present handsome building was erected. The new structure was built on a rather unique plan, and it is claimed to be the most commodious hospital in Brooklyn. The main building, fronting on South Third street, is three stories in height, and the two wings connected with it are two stories high each. On the ground floors of the wings the several clinics and the apothecary's room are located; and

the second floors, as well as a floor in the main building, are devoted to hospital purposes. There are about forty beds in the building. There is a room for each clinic, and the physicians attend for an hour at the same time.

During the thirty-two years that Dr. Harcastle has been connected with the institution, he has faithfully and well discharged his duties as apothecary and dentist. He has spent a lifetime in the service of the institution.

The Southern Dispensary and Hospital was first projected by an association of individuals in 1873. In 1874, it was incorporated under the above title, though the hospital department was never established. The dispensary was first located on the corner of Sackett and Court streets, in rooms over a store. After its incorporation it was removed to its present location at the corner of Court street and Third place.

Nathaniel Ford, M. D., was the first President; followed, in succession, by Edward P. Ingersoll, D. D., James Wall, M. D., and the present President, Benjamin Richardson.

At first, the dispensary was maintained by contributions from a few citizens. Since its incorporation it has had an annual appropriation from the state of \$1,000, and this has defrayed its expenses. **OFFICERS** (1883): B. Richardson, *Pres.*; H. E. Dubois, *Vice-Pres.*; M. D. Lawrence, *Sec.*; David T. Trundy, *Treas.* **TRUSTEES**: B. Richardson, H. E. Du Bois, B. H. Buell, Rev. E. J. O'Reilly, M. D. Lawrence, John Bennett, Theodore Ritter, E. W. Mascord, W. L. Harris, David T. Trundy, Olaf F. Anderson, Fred. Webster, John R. Wilmarth, John R. Greason and N. B. Gardner.

Bushwick and East Brooklyn Dispensary, No. 942 Myrtle avenue, is the result of the consolidation of two incipient organizations, the history of which is as follows: June 15, 1876, a few citizens met in St. Barnabas' Church, Bushwick avenue, to consider the question of the establishing of a dispensary in the eastern part of the city. A committee of six, appointed to prepare a plan for a permanent organization, presented a report at a meeting held Feb. 2, 1877, which report was adopted; and the "Bushwick Dispensary Association" was thereupon resolved into existence. Standing committees on finance and charter were appointed, and subscriptions to the amount of ninety dollars were made.

On the afternoon of the first Sunday in November, 1877, Dr. F. L. Tetamore, and a few friends, opened rooms on DeKalb, near Nostrand avenue, for a Mission Sabbath School. Shortly after, they fitted up a number of beds, where destitute young men could find lodgings. Places of employment for such were sought, and in some instances found; and, besides these benevolent undertakings, the establishing of a dispensary was planned, and actually began the work of ministering to the sick poor on December 10th.

The medical staff consisted of the following: Dr. Williams, *President*; Dr. Hunt, *Secretary*, and Messrs. Fowler, Scott, Hamilton, Condit, King and Evans. The work grows so rapidly upon them, that they are about to obtain a more perfect organization, and are seeking means to become incorporated as the "East Brooklyn Dispensary," they formed of the corps which had already organized for the formation of the "Brooklyn Dispensary." This resulted in a preliminary conference, at the house of John M. Phelps, of a few friends of such organization. On the evening of Feb. 15, 1875, a more general meeting of the friends of both organizations was held in the chapel of St. Matthew's Church, which resulted in the consolidation of both dispensaries under the name of *Brooklyn and East Brooklyn Dispensary*. At subsequent meetings officers were elected, and a constitution and by-laws adopted. A charter meantime had been obtained, and the medical staff had reorganized; an apothecary had been secured; and on March 5, 1875, the dispensary was opened at 342 Myrtle Avenue, with the following *Officers* (1875-76): Nicholas Wickell, *Pres.*; Daniel R. Johns and Homer O. Pease, *Vice-Presidents*; Joseph C. Watson and John S. Norcross, *Secretaries*; Frederick Hise, *Treas.*; *Officers* (1876-77): Henry O. Pease, *Pres.*; John L. Norcross, *Vice Pres.*; Daniel A. Herr, *Secy.*; F. Pease, *Treas.*; Edgar P. Barnes, *Dr.*; S. J. Wilcox, *Almoner*; Geo. Scott, A. Hubert, *Physic.*, *Treat.*

The Brooklyn Sanitarian Hospital and Dispensary, 103 Lawrence street, was the outgrowth of the labors of T. S. Wilcox, M. D., and was organized with seven members, December 6th, 1879 (incorporated nine days later), for the care of the sick and destitute.

The first managers were: George Wilson, John Francis, T. S. Wilcox, M. D., Col. Thos. Carroll, Robt. L. Garretson, F. M. Wilcox and Wm. H. Tintle. The house, 103 Lawrence street, was purchased, hospital beds supplied, and a dispensary opened January 1st, 1880, in charge of Dr. Wilcox, who has since been House Physician and General Superintendent. A donation of \$1,000 from Dr. T. S. Wilcox was accepted.

After an unsatisfactory effort to organize a medical staff from the different schools of practice, a resolution was unanimously adopted by the board, directing the practice in this hospital to be that of the Homoeopathic school; with discretionary powers by the resident physician or one such committee as in his judgment should be most beneficial to each particular case.

The first *Officers* were: George Wilson, *President*; John Francis, *Vice-President*; Thomas Carroll, *Treasurer*; Frank M. Wilcox, *Secretary*; Robert L. Garretson, *Counselor*. The succeeding presidents were: Joseph E. Weedon, 1880; Rev. J. Hyatt Smith, 1881; Dr. William Harris, 1882; Rev. B. F. Reeve, 1883. *Executive Officers* (1883-84): George Wm. Scott, *Pres.*; The *Practicing*, Rev. G. D. B. Sullivan, *Secretary*;

Wm. P. Welch, *Treasurer*; A. L. Martin and Henry A. Hise, *Counselors*; Mrs. M. J. (Mrs. M. L. Jones), *Matron*; and Messrs. among the opening of the institution. The board are members of members.

Surgery cases were treated in the hospital in 1876, and 1877 in the Dispensary, at a total cost of \$1,500.00. A peculiar feature of the hospital is the privilege that a patient can be attended by his own physician while in the hospital, this being the only institution in Brooklyn in which such a privilege is allowed.

Medical and Surgical Faculty: Samuel Jones, M. D., Surgeon; S. A. Kellahan, M. D., Assistant Surgeon; G. C. Hamilton, M. D., C. H. Henson, M. D., William Barker, M. D., H. G. Treat, M. D., and Henry Riedt, D.D. S., *Dental Surgeon*.

This active and useful institution has never received a dollar from the city, except its pro rata share of the excise moneys, amounting to between three and four hundred dollars yearly. The balance of its support comes from private sources.

There are ten patients at present in the house, which has but ten regular beds, with means of extemporising as many more extra. Estimates are being made to enlarge this hospital at once to double its present capacity.

The Brooklyn Diet Dispensary.—In December, 1875, a few ladies and gentlemen met by appointment in the parlors of Mrs. George Stannard, to consider and discuss the question of relief for the sick poor. They decided to organize a society under the name of the *Diet Relief Association*. Although they collected only a little more than fifty dollars, they went forward, feeling confident that the money would come when the nature of the work should be understood. At a subsequent meeting, held on the 12th of January, 1876, a constitution was agreed upon, and the name was changed to the *Brooklyn Diet Dispensary Association*, which is suggestive of the object, viz., to dispense to the sick poor such diet as their physicians may prescribe, and furnish it to them free of charge. Their first principle of action was *economy* in expenditure and *promptness* in payment, the aim being to do the most good with the least money. The next principle was freedom from sectarianism, both in theology and confession. This resulted in the constitution of a board, composed of laymen, as follows: "To the patients we do of old, well as well as of old." A committee based on the above, and the first "diets" were issued on the 17th of January, 1876. One of the first rules adopted in regard to diets was,—"All diseases require a different mode of diet."

From a patient beginning the work was begun, and a well-organized society, incorporated under the laws of the state in 1877, and acknowledged to be indispensable to the enjoyment of a permanent act of charity in any large community.

It has matured so rapidly that, although just entering upon the eighth year of its existence, it has organized three branches, all of which are in successful operation. The *Main* dispensary being at 21 DeKalb avenue; the *East* branch at 574 Gates avenue; the *South* at 293 Sackett street, and the *Williamsburgh* branch at 194 Conselyea street.

Each branch is in charge of a directress and a matron, both of whom are under the control of the board of managers. A visitor is employed by the board to call upon those who receive diets; and if, in any case, a doubt as to character exists, it is reported to the Investigating Committee, who, after further visitation and inquiry, decide on its merits, and, if found unworthy of aid, the patient is cut off from the list and the doctor is notified of the result.

The society has in the past year (1883), reached 3,659 patients, which called for 10,347½ pints of beef tea, 1,312 pints of mutton broth, 30,428 eggs, 25,123½ pints of milk, and other delicacies suitable for a sick room. The sales of beef tea have amounted to \$530.95.

OFFICERS (1882-'83): Mrs. Geo. Stannard, *President*; Mrs. F. B. Fisher, *Vice-President*; Hon. J. W. Hunter, *Treasurer*; Mrs. J. P. Dike, *Assistant Treasurer*; Mrs. R. B. Fithian, *Recording Secretary*; Mrs. H. J. Stevenson, *Corresponding Secretary*; Mrs. J. L. Far-

ley, *Directress Main Dispensary*; Mrs. J. O. Bedell, *Directress East Brooklyn Dispensary*; Mrs. H. Jessop, *Directress South Brooklyn Dispensary*; Mrs. W. R. Taylor, *Directress Williamsburg Dispensary*.

Omitted from its proper place on page 890.

WM. K. BROWN was born in Boston in 1807. Deciding on medicine as a profession he graduated from Dartmouth (Hanover Medical College) in 1829. For a time he practiced in Portland, and then tried Philadelphia; but, dissatisfied with his attainments, he went to Europe early in 1840, and studied for some time under Velpeau, Andral and Dubois. Returning in December, 1841, he came to Brooklyn, and located on the corner of Henry and Remsen streets, afterward removing to Henry and Montague, where he remained in practice for two and thirty years. In the earlier years of his professional life he preferred surgery; and, as early as 1830, while in Portland, he tied the carotid artery. Shortly after removing to Brooklyn he was called out of town one night, to treat a girl whose legs had been crushed by a train on the Long Island Railroad. Time was valuable and instruments lacking. With a pocket knife and meat-saw, by the light of a lantern, and with a brakeman for an assistant, he successfully performed the operation of amputation. He held the love and esteem of his patients during the many years of his life. In his leisure hours he amused himself by the study of insect life, but he left little literary record of his work. Dr. Brown was long a member of the County Medical Society and of the New York Academy of Medicine. An injury to his head, caused by a fall from a horse car, eventually caused his death in 1879.

PHARMACEUTICAL ASSOCIATIONS, ETC.

The Kings County Pharmaceutical Society was organized in 1877. Its object is the elevation of the standard of qualification among pharmacists, and the protection alike of the profession and the public.

The first President was George Close, followed in succession by L. E. Nicot, William De Forest, Edward A. Sayre, and the present President, Robt. Blacke; the other OFFICERS for 1883-'4 are: L. D. Sheets and John MacDonald, *Vice-Presidents*, Charles R. Paddock, *Sec.* and *Treas.*

The Brooklyn Board of Pharmacy, was organized July 19, 1879, and incorporated under chapter 502, N. Y. laws of that year. Its object is to restrict the sale of medicine and poisons to competent pharmacists, and to examine and register the same. It is composed of five members, two of whom are physicians, and three pharmacists. The first OFFICERS were: G. M. Baker, M. D., *Pres.*; L. E. Nicot, *Sec.* Present OFFICERS: Wm. P. De Forrest, *Pres.*; L. E. Nicot, *Sec.*

Among the prominent pharmacutists of Brooklyn, we may mention the following:

Albert Black.....264 Bridge street.

Established 1854; member of Common Council seven years, serving as president two terms.

Louis E. Nicot.....67 Union avenue.

Druggist; established 1871; member of Board of Education from 1882 to 1887; elected Examiner and Secretary of "Kings County Board of Pharmacy," 1879; re-elected 1882; was President Kings County Pharmaceutical Society; now represents Fifth Congressional District in New York Republican State Committee.

Richard Lauer.....365 Pacific street.

Importer of drugs; established 1864, in New York; Supervisor, 1880-'81; Excise Commissioner, 1882-'83.

Thomas M. Lahey.....146 Smith street.

Apothecary; established 1854, in New York; removed to Brooklyn 1857; graduate of Queens College, Galway, Ireland, 1851.

Hermann A. Miller.....204 Columbia street.

Druggist; established 1859, Brooklyn.

George S. Phillips.....39 Fleet place.

Pharmacist; established 1854; first colored man established as a druggist in Brooklyn.

J. C. Ubert.....Division, corner Lee avenue.

Druggist; established 1883, in Brooklyn; born 1883, in Wisconsin.

Van Brunt Wyckoff.....622 Third avenue.

Drugs, paints, oils, hardware, etc.; born May 25th, 1820, in Wyckoff Homestead; established 1853, at 122 Third avenue, removing from there to present address.

THE PROFESSION OF DENTISTRY IN KINGS COUNTY AND BROOKLYN.

IT is our intention simply to place before our readers a purely local history of dentistry in Kings county from its birth, about fifty years ago, up to the present time. Its beginnings being entirely the aggregated results of the individual labors of its earlier practitioners, we are naturally led, at first, to the consideration of the lives of these

Pioneers of Dentistry in Kings County.—

HENRIK N. STRATTON was born in Phillipston, Mass., in July, 1811, at the age of twenty-one, came to Brooklyn, and under the useful tuition of Dr. George Wood, studied dentistry for three years. He then opened an office at 122 Atlantic Avenue, above a confectionery and bakery store, established by his brother a short time before. Here Dr. Stratton practiced for twenty years, at the end of which time, a fine and costly residence was built at the corner of Clinton and Fulton streets, where he acted, another twelve years to his active professional life, and died "in the traces," Feb. 15, 1869. Dr. Stratton's initiation into dentistry is worthy of mention, as being thoroughly characteristic of the man. Early in 1841, a controversy between himself and Dr. Geo. Wood was interrupted by the entrance of a patient. After a very short absence, Dr. Wood returned, saying quietly, "There's a dollar quickly earned." "So soon," cried young Stratton; then, after a moment's thought, "this is the business for me." The words were prophetic; it *was* the business for him. Men of his stamp are rarely met with. He combined a marked intellectual ability and energy with a noble heart and frank, genial temperament. His charities were numberless; for many years he gave his services gratuitously to the six hundred orphans in St. Paul's Parish, on Court street; to the Convent attached to St. James' Church on Jay street, and the Cloistered Nuns at the Villa de Sales, at Bath, L. I. Attending his funeral were the representatives of many churches, to which he had long been a generous contributor.

GEORGE A. CHURCH was born in Lexington, N. Y., in 1810, and commenced the practice of dentistry in Brooklyn in 1845, after several years of practical training; he died at his residence in Adelphi street, in 1870. His professional integrity was unquestionable and his accurate reputation accorded him by his brothers in the profession, flattering though it was, fell far short of his deserts.

GEORGE WOOD was born at Groton, Mass., July 24, 1812. At the age of sixteen, after having learned the masons' trade

at Groton, he came with his parents, brothers and sisters, to Brooklyn, where the family settled in the Fifth Ward. Here he soon obtained employment as clerk in a grocery store, over which the Wood family lived. Two years passed in this laborious occupation, when an opportunity was offered to George by his elder brother Charles, who was practicing in New Hampshire, to study dentistry with him. The offer was accepted, and for a year the brothers traveled about the New England States together; when George returned to Brooklyn, and, thinking the grocery business more lucrative than dentistry, opened a store, to which he devoted himself for four years. In the meantime, the love for the profession which he had abandoned grew stronger, and ultimately forced him into the office of Martin K. Bridges, with whom he studied one year. Then, on Fulton street, near Concord, he opened a modest office and began a professional career of unprecedented success. Dr. George Wood has been so variously spoken of and criticized by the press and his professional brethren, that a correct estimate of the man is perhaps impossible. Such names as charlatan, quack, etc., have frequently been applied to him, let us hope, unjustly. All, however, acknowledge him to have been a very remarkable man. His will was indomitable, and his self-reliance and assurance inspired him with a courage almost heroic. His practice for many years was purely experimental; his mode of treatment severe; and in the mechanical branch his success was not phenomenal. "Hit or miss" seemed to be the motto of this reticent and unsocial man, who never spoke thoughtlessly, and had no intimacies.

JAMES L. MILLER was born January 7, 1810, on the farm of Somers, Westchester county, N. Y., and his early years were passed on his father's farm, situated in the heart of the Quaker district. He received his education at the district academy of his native village and, being of an energetic and industrious temperament, came to Brooklyn in 1839, when quite a young man, and accepted an offer from William Healy, a brother Quaker, to teach in the school under the Friends' meeting house, corner of Clarke and Henry streets. After he remained six months, when he found, on his own responsibility, that he was not fitted to discharge the duties of a teacher. When engaged in this occupation, a little incident occurred which showed the course of his future life. Hypothetically regarding the question of a "Social" he consulted Dr. Martin K. Bridges, who was one of the pioneers of the profession in this city. As young Wood was known in the meeting-house, the thought of studying dentistry seemed pressing on his mind: "Why can't I do that?" He could do

proposition, which was accepted, and early in the morning, and in the afternoon after his duties as tutor, he would repair to his instructor, in whose office he spent the balance of his time, paying from his slender earnings for the privilege. He soon made rapid strides in his chosen work, and opened, in the spring of 1842, an office in Squire's Building, on Atlantic avenue, between Hicks and Henry streets. Here he remained for three years; thence moved to pleasanter quarters on the corner of Pacific and Henry streets, where, for ten years, a very successful practice rewarded his efforts. In 1855, the Doctor moved to the corner of Henry and State streets, and lived there, or in the immediate vicinity, until June 6, 1883, when he died of pneumonia, in the sixty-fourth year of his age. He was associated in business, at different periods, with Dr. Charles Miller, Dr. D. H. Mumford, the late Dr. Carlton Jones, Dr. H. G. Mirick, Dr. C. D. Cook, Dr. Charles H. Haskins, Dr. E. H. Miller, and, at the time of his death, with Dr. Charles C. Allen. Probably no one man in the city had a larger or wider circle of friends. People came to him from all parts of the country for advice and counsel, which was freely given, without money and without price. Dr. Miller was active in many public reforms, especially in reference to cruelty to animals; was a vegetarian in the very strictest sense; a religious revolutionist of marked type; a great reader and deep thinker; erratic at times, and dogmatic generally, but always generous-hearted, high-principled, and of sterling character. Many years ago he severed his relations with the Society of Friends, whose distinctive dress, however, he continued to wear. His funeral services were conducted in accordance with the rites of that sect.

MARTIN KINSLEY BRIDGES was born in Hardwick, Mass., August 1, 1800. The early years of his life were spent on a farm, in the northern part of Vermont, near the border line of Canada. Here, during the spring, summer, and autumn, he worked as a farmer, and, in the winter, attended the district school in Craftsbury, three miles away. At the age of eighteen, prompted by the nomadic spirit which never wholly left him, he moved to Moriah, a small town in the heart of the iron district of Essex county, N. Y., bordering Lake Champlain. Here young Bridges obtained employment in the country store of the place, which position he held for two years, when an opportunity was given him to take charge of one of the small lake steamers plying between Port Henry and St. Albans. One season on the water satisfied him that his time might be better employed, and he removed to Watertown, N. Y., accepting there a clerkship in a general store. This, however, did not long satisfy his ambitious nature; and, when a better opportunity offered itself, he gave way to the impulse of his roving disposition and went to Rutland, Vt. There he was employed by a certain Mr. Page, who, in addition to the country store of the place, owned a small factory, to which the hero of this sketch had access, and made use of the opportunity offered to develop his taste for mechanics, which was recognized in him at an early age. Here, too, he was enabled to attend the Rutland Academy for three terms, securing to himself a solid educational foundation, for which he never ceased to be grateful. He remained in this place eight years, was married, and buried his only son there. Here, too, the thought of dentistry as a profession was suggested to him, and he spent his hard-earned dollars in the purchase of books which treated of the subject, bought a few instruments, made many himself, and began studying in a quiet experimental way. He had always been an adept with tools, and was possessed of inventive genius of no mean order, which stood him in good stead in this new venture.

In 1836, he went to Saugerties, where he remained one year in the office of Hiram B. Lathrop, an experienced practitioner. In the fall of 1837 he came to Brooklyn, where, at the corner of Fulton and Hicks streets, he opened a modest office. Thus far, the practical results of his untiring labors and years of study were discouraging. Presently, however, all was changed; the ability of the man was at last recognized and acknowledged; his practice grew marvellously. At this time, Brooklyn could not claim 40,000 inhabitants; the Heights were scattered masses of barren rocks, rudely fenced in; and, about two hundred yards from the doctor's office, a pair of bars adorned the roadside, through which the cows from the Packer farm were driven to and from pasture. For many years Dr. Bridges occupied the unpretentious quarters in which he first settled; then, moving with the tide of civilization, opened offices at (old number) 109 Henry street, where, in September, 1853, he died, young in years comparatively, but old in the experiences of a life that had been full of changes, both of place and fortune. The immediate cause of his death was brain-softening, superinduced by overwork. For many years *The Dental Mirror*, published for gratuitous circulation, was edited by him; an interesting sheet largely made up of quotations pertinent to the subject of dentistry, and of advertisements. The benevolent disposition of the man is clearly set forth in this quotation, which appears conspicuously on *The Mirror* for 1843: "Two hours in each week-day, from seven to nine o'clock in the morning, are devoted to the service of the poor without charge."

In 1841, he became a member of the American Society of Dental Surgeons, and, for many years, was the only representative in the Society from Kings county. His charitable nature was largely developed; he was actively interested in many prominent benevolent societies; gave freely his thought, time or money, as the demand might be; and died regretted alike by rich and poor; his friends were legion; foes, he had none.

JOHN SCOTT was born in Wyoming county, N. Y., September 4, 1813. As a boy, he was precocious, and evinced an earnest desire for knowledge. He began, at seventeen, the study of medicine and dentistry, in New Haven, where he remained several years; and, at the age of twenty-two, having given up the study of medicine, began the practice of dentistry in Seymour, Conn., where he remained until 1840. At about this time, the necessity for a collegiate course was largely felt by the profession. Young Scott, recognizing the desirability of such a course, went to the Philadelphia Dental College, where he graduated in 1843; and, an opportunity offering itself the following year, he came to Brooklyn and opened an office at 193 Atlantic avenue, near Court street. Here he took the practice of Dr. Hammond, who was infected with the gold fever, and had gone to California, where, a few years later, he died, regretted by many on both sides of the continent. The house in which Dr. Scott had located was quite pretentious for those days; the parsonage of the Pacific Street Methodist Church was next door; and a long row of high-stoop brick houses opposite, gave an air of unquestioned elegance to the neighborhood. The year following the advent of Dr. Scott, the first line of street-cars in Brooklyn was introduced on Court street, or Fulton street; the clumsy stages still rattled along, and the tunnel under Atlantic avenue was still a thoroughfare. In 1849, Dr. Scott moved to 267 Fulton street, near Tillary; and, six years later, purchased a house at 257 Washington street, where the last twenty years of his busy life were spent, and where he died, January 21, 1883. Dr. Scott was one of the organizers of

the Brooklyn Dental Society. He was a man of considerable mental and physical power, well-to-do, and, like many others of similar temperament, carried out his work with petencies. Up to the time of his death, he continued in the practice, which circumstances would not allow him to relinquish.

A history of dentistry cannot be written through biographical sketches of individual practitioners, however conspicuous they may have been in the profession. It is only through a careful study of societies and associations that we can gain a satisfactory knowledge of the growth of the profession among us, and of its wonderful development, within the past twenty-five years, from a trade to a profession. To this end we must direct our attention to facts bearing on the question of organization. In the primary stages of American dentistry, the profession (if such we may be permitted to call it) was peculiar, but not singular, in the fact of its strong conservatism. This state is common to all bodies numerically small and scientifically deficient, as were the pioneers in the profession. Under such conditions, it is almost invariably the case that processes and agencies are jealously guarded in secrecy; and the approach of inquiry and investigation is viewed with a watchful and forbidding eye. Knowledge that is possessed under such conditions is naturally regarded as the property, and for the benefit of the individual alone. The dental horizon began to clear about the year 1837, when was instituted in New York city an association of dentists under the title of the *New York Society of Dental Surgeons*. This body was short-lived; we have no records of its doings, objects, or date of beginning or ending. It was, however, the father of all future organizations throughout the country. The seed sown by Dr. Horace H. Hayden in 1837, has borne an extraordinary return, not alone in the number of societies scattered over the land (the total membership of which to-day is more than seventeen thousand); but in the standing of these bodies of representative men. The scientific ability, local prestige and reputation for probity and diplomacy, which was possessed by these men, was recognized, however, at Albany, in 1868, when the Dental Bill was framed, presented to the Legislature, fought for, and passed.

In the fall of 1853, at the office of Dr. H. N. Stratton, was organized in Brooklyn

"The Long Island Association of Dental Surgeons"—the first dental society organized in Kings county. The preamble is terse and epigrammatic, viz.:

"This society is organized for the improvement and elevation of dental science, and the establishment of a proper sentiment of respect among dental practitioners." The Constitution provided that "the Examining Committee shall have been practicing dentists in good standing for at least five years;" that "the yearly subscription shall be three dollars, payable in advance;" that a member might be expelled, "providing due notice be

given; and, after an impromptu meeting, have failed to exonerate himself;" that "the Treasurer should give security for the trust reposed in him;" that "members of the association shall not take students for a less term than six years, &c." The first board of officers of this association was as follows, in the order named: D. H. Minck, *President*; S. S. Lymann, G. A. Cooper, *Corresponding Secretary*; James E. Marsh, *Treasurer*; Mary K. Bridges, *Lecturer*; *Resolving Committee*, J. Brantley, J. P. Fredericks, and James E. Marsh; *Finance Committee*, B. S. Lymann, A. H. Green, and F. C. B. Hubbard. The organization was of a partly social nature; a light repast was eaten, amid jocular repartee and good-natured merriment. Later on, however, the dinners grew more pretentious, more elaborate; notably those given by Dr. Stratton, who, at this time occupied rooms above the baking establishment conducted by his brother on Atlantic avenue. Disaffection among the simpler-minded or perhaps less fortunate members followed this innovation; and, as nothing was done to promote the "Science of Dentistry," the society adjourned *sine die* after an existence of about two years.

Services of Brooklyn Dentists in the Civil War.

During an interval of several years, dentistry languished throughout the country; organization, except for "the rank and file" was scarcely thought of; the shadow of a great war was upon us; local interests were forgotten; the nation's safety was the engrossing theme. Dr. F. W. DOLBEARE, inspired with feelings worthy the cause, devoted his time and energies to mustering troops for the 159th New York Volunteers, which regiment, under command of General E. L. Molineux, joined General Banks at New Orleans, and met with fatal disaster at Bayou Teche, Louisiana.

Dr. J. P. FARMER, who served as Commissioner at Washington, and later on at New Orleans; and, shortly after the war, died, regretted in social and military circles. Dr. Geo. W. BRUSH, in 1861, then eighteen years of age, joined the 4th New York (as was now made Second Lieutenant and commissioned to the 2d South Carolina, afterwards known as the 34th United States Colored Troops; this regiment, together with many others, was organized by General Hunter, who commissioned white officers, by order of Secretary of War, to take charge of them, and educate the colored troops, not alone in the art or artfulness of war, but in reading, writing and spelling. The spelling-book kept company in the belt with the bayonet and pistol; and, so eager were these dusky pupils for knowledge, that the night was turned into day by huge camp fires, about which they gathered, anxiously waiting for mysterious ciphers of the alphabet by the uncertain lights. Dr. Brush, graduated from the ranks at the close of the war, at the age of twenty-two, a Captain.

In writing up the War Record of Kings county Artists, we are pleased to give space to Dr. E. H. DUNKLEY, who served with the First New Jersey Light

Artillery, Battery "B," a Newark organization of no mean historicity. During his eighteen months of active service, Dr. Dickey attended to the needs of the men professionally. Upon a stump, or any other convenient substitute for a dental chair, the patient was seated, the instruments were scattered ready at hand upon the ground, and, surrounded by a hundred or more interested spectators, the work of torture began. The Doctor tells his army experiences with pardonable pride; he served his country actively; his professional knowledge was very largely augmented, and into his purse fell day by day from ten to fifteen bright gold dollars.

Dr. CHAS. H. BIDDLE enlisted August, 1862, in Company "D" of the 139th New York State Volunteers; with this regiment he served through the war, and was honorably discharged in July, 1865, unscathed and a Corporal.

Dr. C. L. BISBEE'S war experiences are, no doubt, similar to those of Dr. Biddle; he having joined Company "C" of the 139th New York State Volunteers at the outbreak of the rebellion. After three long years of varying fortune, a period crowded with incidents (never other than interesting when narrated by the doctor), upon his discharge, and return to Brooklyn, he began at once the study of dentistry with Dr. Mirick.

These few names, whose army service we have recorded, are all among the profession in Kings county who participated actively in the late War of the Rebellion.

In 1861, a desire for co-operative union among all the professions was felt. In dentistry, this found expression and definite shape, in the spring of that year, at the residence of Dr. D. W. Allen in West Eleventh street, New York city, at which place was organized (by Dr. W. H. Atkinson, who had come but recently from Cleveland, Ohio)

The New York Dental Society.—This association, after it was instituted, met in the Cooper Union, and was not in any sense local. It stretched its generous arms across both the North and East rivers to sister cities, gathering within its hospitable embrace all those who chose to accept the principles shadowed forth in its constitution. Among the members of this society were many Brooklyn practitioners, who, one year later with kindest feelings, but because of greater convenience, thought it advisable to withdraw to Brooklyn; where, at the office of Dr. O. E. Hill, then at 276 Fulton street, was organized, on the twelfth day of June, 1867.

The Brooklyn Dental Association, with the following BOARD OF OFFICERS: W. C. Parks, *President*; A. H. Hawes, *Vice-President*; John Allen, *Treasurer*; Wm. B. Hurd, *Secretary*. The original membership of this society was thirteen; composed chiefly, strange as it may seem, of New York dentists. This number

was not materially augmented during the short and uneventful life of the association, covering as it did a period of perhaps four years, through the last half of which it languished, and ultimately died from sheer neglect. This, no doubt, arose from the fact that the time of the members of the society became too fully occupied, professionally, to allow them opportunity to attend properly the duties incumbent upon them.

The year following the dissolution of the above society marks a new epoch in dental good-fellowship in Kings county; for, at the house of Dr. Geo. A. Mills, 113 Henry street, was organized, on the fourteenth day of December, 1867,

The Brooklyn Society of Dental Science and Art—FIRST OFFICERS: H. G. Mirick, *President*; Chas. D. Cook, *Vice-President*; E. L. Childs, *Recording Secretary*; Wm. Jarvis, Jr., *Corresponding Secretary*; I. C. Monroe, *Treasurer*. Considerable dissatisfaction was felt among the members of this organization, because of the length and pretentiousness of the name, which was changed on January 4, 1869, to

The Brooklyn Dental Society, by which it is now known. During the first year of this society the State Dental Law went into effect, a fact due (not a little) to perfect organization and unanimity of purpose among the members. At this time all were workers; the minds of the society were pregnant with new projects; visionary formulas took shape; experimental ideas were advanced and developed; the leaven of the whole society was a keen desire to elevate the beneficent as well as social and scientific side of the profession. After many lengthy and exhaustive discussions at the regular and special meetings, an entirely novel and very praiseworthy enterprise was started, namely a *Dental Infirmary*, which was opened at 260 Washington street on the morning of January 10th, 1870. The time of the members was so apportioned that each devoted one-half a day a month to the charitable venture, thus insuring the attendance of one or more experienced practitioners at all times. For two years, this infirmary was supported almost entirely by the *Brooklyn Dental Society*; after which time, the expenses having largely increased, the Legislature was asked to contribute \$1,500 annually, from the funds set aside for State Infirmaries. This request was acceded to; and, for two years longer, the worthy poor were treated gratuitously; clinics were held daily; much experimental work was done. But, through lukewarmness, lack of interest or some other inexplicable cause, the greatest monument that the Brooklyn Dental Society ever reared to its honor, succumbed to circumstances. Thus died the only Dental Infirmary ever founded in the United States.

The Society was duly incorporated under the Laws of the State of New York, February 17, 1869; the official documents filed at Albany, April 5th, 1869. Shortly after this, the Code of Ethics of the American

Dental Association was adopted. Nothing of special moment occurred until March 13, 1882, when, in conjunction with the Kings County Medical Society, a Library and Reading Room was established at Everett Hall, No. 103 Fulton street. The original society numbered but twelve; the present membership is forty-five. Officers: *President*, James H. Rice, *Pres.*, J. B. Brown, *Vice Pres.*, L. G. Wilder, *Rec. Sec.*, W. H. Johnston, *Cor. Sec.*, F. C. Walker, *Treas.*, W. M. Russell, *Lecturers*.

The *President* of this organization, both as the *President* of the Society of Dental Surgeons and the *President* of the Dental Society, have been as follows: H. G. Mark, 1867-'70; C. D. Cook, 1870-'71; O. E. Hill, 1871-'72; G. A. Mills, 1872-'73; A. H. Brockway, 1873-'74; William Jarvie, Jr., 1874-'75; W. T. Shannon, 1875-'76; William E. Elmendorf, 1876-'77; W. H. Atkinson, 1877-'78; H. G. Mark, 1878-'79; O. E. Hill, 1879-'80; C. D. Cook, 1880-'81; J. E. Monroe, 1881-'82; A. H. Brockway, 1882-'83.

On December 14, 1867, in response to an informal call, a convention of delegates, representing the several dental societies of the State, met at Utica, N. Y., to confer as to the advisability of securing from the Legislature a law regulating the practice of dentistry. A law was finally drafted and presented to the Legislature April 7th, 1868, and passed. The passage of the bill was largely due to the efforts of the Brooklyn Dental Society which was very actively represented at Albany.

This law secured the perfect organization of the dental profession, and its legal recognition; and gave "The Dental Society of the State of New York," authority to issue legal diplomas to all applicants who should be found worthy. On application made by the Dental Society of the State of New York the ensuing winter, an amendment was passed, giving to the Society the authority to confer with its diploma the degree of "Master of Dental Surgery" (M.D.S.), in evidence that its possessor has not only passed the rigid and thorough examination of the Board of Censors in compliance with the law, but is qualified for and actually engaged in regular and successful practice.

In March, 1878, a Mr. Garvin, a resident politician of the famous Sixth Ward of New York, introduced into the Assembly an amendment to section 9 of the dental law passed April 7, 1868, necessitating all dentists to be college graduates, and to hold diplomas testifying to that fact. This was clearly a stroke at the dental profession, the majority of whose older and more prominent practitioners had made themselves proficient through early apprenticeships and long years of active experience; these men were recognized masters of their profession, yet had never been subjected to qualifying examinations, or received diplomas from any society, board or college. Owing to the vigorous opposition of dentists from all parts of the state, the bill failed to pass. In May, 1878, at the annual meeting of the Dental Society of the State of New York, a bill was

unanimously adopted and, through Senator Egbert, introduced before the Legislature, where it became a law June 20, 1879. (Chap. 331 of the Laws of that Session), which provided that:

"It shall be unlawful for any person to practice dentistry in the State of New York for fee or reward, unless he shall have received a proper diploma, or certificate of qualification from the State Dental Society, or from the faculty of a respectable dental or medical college, recognized as such by said society; provided that nothing in this section shall apply to persons who are engaged in the practice of dentistry in the State of New York, and that:

"Every person practicing dentistry within this State shall, within sixty days after the passage of this act, register in the office of the clerk of the county where located.

In order, also to protect those already in practice, through neglect or ignorance of the above enactment, another law (Chap. 376,) was passed May 26, 1881, affording them a further opportunity for registration.

Section 1. "Any person who shall engage in the regular practice of dentistry within this state on the twentieth day of June, eighteen hundred and seventy-nine, and who was entitled to registration as a dentist as provided by the above act of chapter five hundred and forty of the laws of eighteen hundred and seventy-nine, entitled 'An act to regulate the practice of dentistry in the State of New York,' who who failed to make his name to be registered as therein provided, and who shall make and file with the clerk of the county in which he registers, his affidavit to the effect that he was so engaged in such practice of dentistry and so entitled to registration, may, within sixty days after the passage of this act, secure his name, office and professional address to be registered in the county clerk's office in the manner provided by said act, and such affidavit and such registration shall have like force and effect as if made within the time prescribed by said act, notwithstanding that any person who shall wilfully make and file a false affidavit for the purpose of procuring such registration shall be entitled to imprisonment and punishment for perjury.

§ 2. Every person hereafter authorized to practice dentistry within this state shall, before commencing to practice, register in the clerk's office of the county where he intends to commence the practice of dentistry, and make to be kept for that purpose, his name, office and professional address, together with the name of the society, college or other authority from which he has received his diploma or certificate of qualification to practice dentistry.

§ 3. The clerk of any county shall be entitled upon the payment to him of the sum of twenty-five cents, to make the registry of any person provided for in the second section of this act, which sum the clerk is entitled to collect and receive from the person registering.

§ 4. This act shall take effect immediately.

Kings County Dental Society.—The Dental Law provides that the State shall be divided into eight districts, "one of which shall be organized a society under the jurisdiction of The Dental Society of the State of New York." Under this provision Kings county is embraced in the Second District Society, which includes the following counties, viz.: Richmond, Suffolk, Queens, Kings, Westchester, Orange, Rockland, Putnam and Dutchess. The County Society was organized on the sixteenth day of April, 1880. The first Officers

were: W. B. Hurd, *President*; G. A. Mills, *Vice-President*; Wm. Jarvie, Jr., *Recording Secretary*; H. G. Mirick, *Treasurer*; L. S. Straw, *Corresponding Secretary*. Thirty-eight members were enrolled at this meeting, and the present membership is sixty-five. OFFICERS: E. H. Dickey, *President*; W. A. Campbell, *Vice-President*; Jno. J. Pitts, *Recording Secretary*; L. G. Wilder, *Treasurer*; F. C. Walker, *Corresponding Secretary*; F. W. Dolbeare, *Librarian*. The society has practically demonstrated since the beginning of its existence the wisdom of organization, and the benefits that invariably follow in the wake of co operative union and harmony.

DR. G. F. REESE, has discovered and patented a composition for making artificial dentures; many advantages are claimed for this foundation by the inventor. DR. THOS. O. OLIVER is known to the profession through his plastic fillings of French alloy, amalgam, and gutta percha, all of which rank high in excellence. DR. A. N. CHAPMAN has recently invented an ingenious device for fastening artificial teeth to the plate. DR. W. K. NORTHALL, one of the pioneer dentists of Brooklyn, discovered and introduced the use of arsenic for the devitalization of the pulp in the tooth, and generously advertised his discovery, the importance of which was immediately recognized, and the use of arsenic for the purpose named became universal. The most valuable invention claimed for Kings county is that made by DR. A. J. WATTS, who discovered and patented, in 1853, a method by which gold can be crystallized, and, in that state, used with far better results for all dental purposes than in the foil. Many and extremely various were the tests applied to the new form of gold, all of which resulted favorably, thus demonstrating practically the merits of the discovery. Objections were thus almost immediately overcome, and the profession generally endorsed and used crystal, or spone gold, as it was at times called. With its introduction a new era was opened in dentistry, in the restoring with gold of broken and lost portions of (and occasionally even whole crowns of) teeth; the value of this invention cannot be over-estimated.

Something like an approximate idea of the vastness of the profession and its extraordinary growth may be had from the following facts: One hundred years ago the United States was possessed of but one dentist, an Englishman, John Woofendale by name, who remained in this country less than two years, when he returned home. In 1873, there were 12,000 dentists in America. Now there are 17,000. Brooklyn to-day claims 193 active practitioners. The consumption of gold for professional purposes is enormous. It is variously estimated that from one to three tons is used annually in packing the teeth of the American people. A certain Kings county statistician recently prophesied, after careful mathematical deduction, that, in the twenty-first century, all the gold in the country will be in the

graveyards. We acknowledge our indebtedness to Drs. O. E. HILL, D. H. MIRICK and C. D. COOK for the very generous assistance they rendered the compiler of the above historical sketch.

DR. GEORGE W. FRAM.—The name Fram was originally spelled Fraime. By different branches of the family in America it is now variously spelled Fraime, Fram, and Frame. Three brothers of the name, all English Quakers, came to America in the latter part of the seventeenth century, one of them locating in what is now Chester county, Pa., another on Long Island, N. Y., and the third elsewhere in the then sparsely settled country, presumably in western Pennsylvania. The family of Hoffnagle was very early in Lancaster, Pa., where one of the name purchased property which was conveyed to him directly from William and Thomas Penn. A portion of the property mentioned was the plot known as the old Fram homestead, in Lancaster, the families of Hoffnagle and Fram having intermarried, and which was continuously in possession of ancestors and relatives of Dr. George W. Fram until about fifteen years ago. Members of both families mentioned were participants in the wars of the Revolution and of 1812-'14, bearing arms in defence of American liberty; and it is not without a sense of just pride that Dr. Fram points to the fact that he is descended from patriot stock.

Dr. George W. Fram was born at the old homestead in Lancaster, Pa., above mentioned, April 14th, 1834, and is, accordingly, about fifty years old at this time. He received the rudiments of his education in the common schools of Lancaster, and, later, graduated from the old Franklin Academy of that place, since merged in the Franklin and Marshall College. While yet young, he entered, as a student, the office of Dr. John Waylan, of Lancaster, a dentist, who was in his day one of the most successful and celebrated in the United States. Graduating in dentistry in 1857, he at once began to look about for a suitable place in which to settle and practice his profession. He stopped a short time in Pittsburgh, Pa., and removed thence to Philadelphia. From Philadelphia, in 1859, he came to Brooklyn, where he has resided continuously since, having his office on Fulton street, between Concord and Johnson streets, and, since 1878, at No. 301 Fulton street.

In his profession, Dr. Fram has ever been a leader and an innovator, never a passive imitator, and always abreast if not in advance of the times. All departments of dentistry have received his careful attention, and all of its details have, in his hands and under his conscientious study, been so improved as to combine to the advancement of the whole. To the literature of his profession he has devoted much thought and care, and in all assemblages of dentists at which he has been present, he has been recognized as an authority upon all subjects relating to the profession. A man of generous impulses, he has done more, probably, than any other one old practitioner in Brooklyn to aid young men of promise to acquire a thorough knowledge of dentistry, and establish them firmly in its practice. These young men have been successively his pupils, his partners, and later, when they were endeavoring to establish independent practices, the objects of his most careful solicitude, and often of a liberality without which some of them would have found it most difficult to succeed. Among the many whom he has at different times so assisted, have been several of his nephews, from which fact is derived the familiar inscription on his signs of "Fram & Nephews." It is probable that Dr. Fram's dental library is one of the largest and most complete in the country. He has traveled extensively in Europe, and states, with



Geo. W. F. F. F.



DR. SALMON SKINNER'S RESIDENCE, CORNER HENRY AND MONTAGUE STREETS.

Erected 1844, and occupied by him in 1846.

then used for that purpose was gold, and the instruments used were exceedingly clumsy contrivances, when compared with those of the present day. The pupil soon acquired all the knowledge his instruction was able to impart, and he had not been in Philadelphia many months before he was able to give, instead of receive, instruction; for the reason that his remarkable mechanical and inventive genius then developed itself. He returned to the city of Hudson, in this state, where he opened an office and commenced the practice of his profession. His success was so immediate and great that before he reached his twenty-first year, he had made enough money to pay for the building of two houses; and had also accumulated sufficient capital to enable him to remove to Brooklyn. He came to this city forty years ago, and located in a house on the corner of Hicks and Cranberry streets. Brooklyn at that time was merely a village. The lady who rented the house to Dr. Skinner said she desired to leave it because it was too much in the city, and she wanted to move out into the suburbs. She moved out to the corner of Johnson and Fulton streets, which was a portion of the suburbs of Brooklyn in those days. Dr. Skinner's Brooklyn friends and patrons at that time were such men as Rev. Dr. Broadhead, Rev. Dr. Bethune, Rev. Dr. Cox, James Freeland, Henry Sheldon, Peter Hoffman, and others whose names will always be remembered in connection with the rise and progress of the city. Dr. Skinner did not remain for any great length of time on the corner of Hicks and Cranberry streets; but, like his landlady, moved out into the suburbs and commenced to practice his profession in the house on the corner of Montague and Henry streets, then called Montague place. That, and the two adjoining houses, were the only buildings then erected there. Rev. Henry Ward Beecher was just beginning his wonderfully successful career, and preached in a small, white frame building, supported on brick pillars, and located about two hundred yards away from the house where Dr. Skinner had hung his shingle out.

"The Wall Street Ferry had not then been established. Montague, and other streets in that neighborhood, were little better than common dirt roads, and the majority of the people of Brooklyn lived almost within shouting distance of the Fulton Ferry.

"Dr. Skinner experienced no difficulty in building up a good practice, and his reputation as a skillful dentist spread so fast and far, that he had not been settled in Brooklyn many months before he had rendered professional services to almost every prominent man in the county. They ever afterward remained his warm friends, and, for the next twenty-five years, no man in the county had a wider or more influential circle of friends. He was then a constant attendant at the church of his friend, Rev. Dr. Bethune; and when the project was first entertained of building the Reformed Church, on the Heights, Dr. Skinner was one of the first and most liberal supporters of the enterprise.

"His practice increased so rapidly, that he was obliged to employ a number of assistants, and had often as many as eight students under his care. Many of the most prominent and successful dentists in this and other cities graduated from his office. Dr. Skinner was often called upon to testify as an expert, and, on one such occasion, when asked, 'are you a graduate of any college?' he replied, with considerable warmth: 'why, the colleges graduated from me.' After many years' close and hard work, the doctor's health became impaired, and he was ordered to the island of Cuba to recuperate. Mr. James Gordon Bennett, the founder of the *New York Herald*, who was a warm personal friend of Dr. Skinner, engaged him to act as the special correspondent of that journal, and his letters from Cuba, over the *nom de plume* of 'Amigo,' attracted wide attention, not only on account of the great literary ability displayed, but also by reason of the intelligent and comprehensive manner in which the affairs of that portion of the Spanish possessions were treated. His friendly relations with Mr. Bennett were maintained up to the time of that gentleman's death, and his son, the present proprietor of the *Herald*, was one of the doctor's most steadfast adherents. In politics, the late Dr. Skinner was a Democrat of the most pronounced type, and year in and year out, for nearly a quarter of a century, he was always elected a delegate to the different National and State conventions. His last active participation in political affairs was at the Charleston Convention, in 1860. Dr. Skinner was the inventor of a fire-escape, which is now in use in many of the large cities in the eastern states; and all who have been in the habit of visiting the American Institute Fair, will doubtless remember seeing a gas cooking-stove of his invention, the burners of which, unlike other stoves, are on the top instead of underneath. It was while engaged in exhibiting his stove, and explaining its merits, that he contracted the cold which resulted in his death.

"One of the enterprises with which the name of the deceased will always be connected, is the Cypress Hills Cemetery, of which he was one of the originators, and it is there that he was buried."

Dr. DAVID SALMON SKINNER.—It is a fallacious thought that the death of one of intrinsic worth is an irreparable loss. As in nature, annihilation is impossible, so it is of the mental outcome of a truly original man. His thought will find embodiment. Often years pass before this is proven; the good seems to have been extinguished with the death; but Dr. Salmon Skinner left one in whom the speedy realization of the aspirations of his better nature was obtained.

Dr. David Salmon Skinner, the subject of this biographical sketch was born in Brooklyn, on the corner of Hicks and Cranberry streets, on the 20th of October, 1844, and has resided in Brooklyn almost continuously ever since. His education was received from such well-known instructors as Lyman Cobb, of spelling-book fame; James Monteith, the compiler of



Dr. S. A. Kimmel

various other works, and Professor Sedgwick, the eminent astronomer, and the attention he there gave to his subject has been of great benefit to our cause, for his industry and perseverance, in order to meet our theoretical and practical needs, has been the "Open Sesame" to the knowledge and admission of the planned course of the University. At the breaking out of the Rebellion, although a comparatively young man, he took an active part in all military affairs, and was for a short time associated with the lamented Ellsworth. He assisted in raising a company for the New York Legion, U. S. V., and then served in the Quartermaster's Department in the Shenandoah Valley for a short time. He returned about the year 1865, to the Regiment, N. G., S. N. Y., and served with them in the Fifth, Eleventh and Grand Divisions being recommended by a letter from his company for his services in the last-named and most famous campaign with success. He was elected a life member of the Veteran Association, and still takes a deep interest in all the public and general affairs of the Government.

When he returned to our ranks he was of First and Second Major, and had been distinguished in his previous career the highest rank, but lately entering the thirty-third degree, and in a few months will be elevated to the rank of Master in his lodge, as he will then be a veteran in that institution. The confidence reposed in him, through his long and successful career, has been manifested by his election to various high offices, at different times, by companies and associations with which he has been connected, and, through a profound acquaintance with the

medical offices, he has always declined the honor, preferring to remain in private life, and give that attention to the profession of dentistry that his large and influential practice requires. The Doctor, at an early age, evinced decided journalistic ability, and for many years has edited the society and dramatic departments of some of our leading papers, his articles being notable for their crispness, pungency and analytical acumen. As a dentist, he takes the highest rank, it being his constant effort to do the best work in his profession; and the patients, among our most cultured and wealthy people, have secured to him a fine reputation.

In private life, he is a truly an amiable person, full of all the kindly affections, a ready giver of his time and talent, and one with whom conversation is both a pleasure and profit.

Among the prominent dentists of Brooklyn we may mention the following:

Charles W. Hanks, 108 1/2th Street, E. D.

Entered 1871, 80th Street. In 1875, removed to present address, 108 1/2th Street.

C. A. Martin, D.D.S., 110 Clinton Street.

Entered 1871, President of Empire State Dental Society; was Member, Executive Board of same. Empire State Dental Society; Professor of Mechanical Dentistry in New York College of Dentistry. From 1880, has been connected with the N. Y. Odontological Society; from 1882, with the

THE HISTORY

OF

HIGHER EDUCATION, PRIVATE SCHOOLS, ETC.

IN

BROOKLYN.

EARLIER PRIVATE SCHOOLS IN KINGS COUNTY.—The earlier beginnings of Education, both in its *public* and *private* form, in Brooklyn and Williamsburgh, have been already sufficiently stated in our chapter on the *History of Education in Kings County* (pages 409 to 418), and in the *History of the Department of Public Education*, by Hon. T. G. BERGEN, Esq. (pages 609 to 618); as well as in the histories of the several county towns presented in this volume.

In dealing, however, with the *private* schools which, since the beginning of the present century, have flourished within the limits of the present city of Brooklyn, we have a larger subject than we are able to compass within the space allowed to us. Their number has been extraordinary; their merits and demerits we do not feel competent to discuss.

A few names stand clearly out in the memories and approval of the oldest inhabitants. Foremost among them was JOHN BEYNON, whose school was located on Nassau street, near the northwest corner of that street and Washington street—then a pleasant tree-shaded neighborhood of dwellings. Beynon is characterized as “a freethinker, a great admirer of Thomas Paine, but an excellent scholar and good teacher, although he possessed a hot temper and not much suavity of manner.” He was considered as an estimable citizen; was a member of the Society for the Prevention and Suppression of Vice in the town of Brooklyn, formed in 1815; and it was at his school-house that the meeting was called by Messrs. Snow, Mercein, Herbert and others, in 1816, which resulted in the establishment of the Brooklyn Sunday School Union; so that, despite his “freethinking” tendencies, we must consider Beynon to have been one of the solid, law-abiding citizens, and respected by the best men of the village.

He was succeeded, at his death, by the Rev. SAMUEL SEABURY, formerly his assistant, and who patched up an old meeting-house (which originally belonged

to the Episcopal Church, and which adjoined the northerly side of the burial ground of St. Ann’s Episcopal Church (and which is now covered by the block of stores called “St. Ann’s Buildings”), and used it as a school-room. Here he kept a classical and English school of great excellence, in which many of our oldest citizens received their education. Mr. Seabury was a fine scholar, a strict disciplinarian, and a thorough teacher. He was widely esteemed for his scholastic, theological and editorial abilities. JOHN SWINBURNE, his assistant, was also a conscientious, methodical teacher, and an excellent disciplinarian. He afterwards conducted a classical seminary of high reputation, at White Plains, N. Y.

Of a later date (1840–60?) was Mr. B. W. DWIGHT, who kept a school on the south side of Livingston street, between Sidney place and Clinton street. About 1846, it was the principal school of the city, and Mr. D. is characterized by Gen. A. C. Barnes “as well remembered for his brisk ways, his lectures to the boys on the practical subjects of life, and for his long, lithe bamboo stick, tipped with a button, for thumping the crania of inattentive or mischievous pupils in the remote corners of the school-room. He had, also, a trick of seizing offending youth by the hair, gently twitching it at first, and inquiring if the process hurt. Repeating the act with gradually increasing force, until tears of agony stood in the victim’s eyes, he would assure him that the teacher was a still greater sufferer from the high crimes committed by those under his charge. Prof. Dwight made classical study a prominent feature of his curriculum. Prof. D. P. Holbrook was his first assistant, and greatly endeared himself to the boys by his gentle manners and patient faithfulness as a teacher.”

JULIUS R. POMEROY for several years kept a private school for boys, at 65 Henry street. He was succeeded by his brother Daniel, and the school was removed to a small building in Willow street, near Pierrepont.

A. B. MOREHOUSE’s school for young ladies in Clinton street, near Sackett, was very popular for many years in South Brooklyn.

Among other private schools, which will recur to the minds of many Brooklynites of recent years, were the *Lutheran Institute* for young ladies in Johnson street, kept by the Misses Landerer, and Prof. J. C. Overmire's school, in the Hamilton Building, which was usually a fitting school for young gentlemen.

The Packer Collegiate Institute.—The first endowed institution for female education, in the State of New York, was the *Albany Female Academy*. It was founded by Chancellor Kent, John V. Henry, Gideon Hawley and others, in 1811, and incorporated in 1813. A similar institution was subsequently founded in the metropolis, under the name of *Rutgers Female Institute*—now *Rutgers College*.

Attendance of pupils increased. On January 1st of that year the school building, with its library, chemical and astronomical apparatus, natural history collections, etc., was destroyed by fire. Before the flames were extinguished, the use of some in the Brooklyn Institute was lost, and the school, and the school was not interrupted for an hour. Within three days, and while the smoke from the ruins was still ascending, Mrs. Harriet L. Packer addressed a communication to the trustees, stating that her late husband, William S. Packer, had desired to found an educational institution, and that she, as his representative, proposed to carry out his wishes. She therefore offered to re-establish the institution on a more permanent and solid basis; and devoted it for all time to the advancement of fe-



PACKER COLLEGIATE INSTITUTE, 30 JORALEMON STREET, BROOKLYN, HEIGHTS, N. Y.

In 1844 the *Brooklyn Female Academy* was founded by a number of the citizens of this city, and incorporated by an Act of the Legislature during the same year. It was modelled on a plan similar to the others; and A. C. Coffey, A. M., who had been during twenty years at the head of the *Albany Female Academy*, became its first principal.

Two brick buildings were erected on Joralemon street, between Court and Clinton; the main one, in which were all the school apartments, was 75 by 100 feet and four stories in height; the other, a boarding house, was 50 feet square and also four stories high. The Academy was formally opened May 10, 1844. Its success was prosperous until 1853, when its revenue from tuition alone had reached \$20,000 per annum, and its daily

male education in the higher branches of Art and Science, on condition that the stockholders would transfer their ownership in the *Brooklyn Female Academy*, to found a similar institution for the education of young men. She wrote: "What I contemplated is that to apply \$65,000 of Mr. Packer's property to the erection of an institution for the education of my own sex in the higher branches of literature, in lieu of that now known as the *Brooklyn Female Academy*." The condition which she imposed was accepted by the trustees; and the incorporators consented to transfer their interest to a school for boys, under the title of the *Brooklyn Collegiate and Polytechnic Institute*.

The Institute was sanctioned by the Legislature, under the name of the *Packer Collegiate Institute*. In

and Mrs. Packer expressed her thanks for the honor conferred on the memory of her husband, in giving his name to the institution, and proposed to add \$20,000 to her former donation, to further aid the trustees in the erection of a building which should be a token of the refined and elevated influences to be found within its walls. This sum of \$20,000 was never called for.

The erection of the present building, on the site of the one destroyed, was at once commenced; and it was formally opened on the 9th of November, 1854. It exceeds the former one in size by one-third, and, with the grounds, has an estimated value of \$200,000. This edifice, in the beauty of its architectural design, and in the convenience of its arrangements, is not surpassed by any college edifice in the country. It has a tower for the support of a telescope, resting on a deep foundation, and surmounted by a revolving dome. Its chapel is of the early English style of Gothic architecture, and has a seating capacity of 1,000. It has a lecture room, laboratory, cabinet, library, gymnasium, etc., etc.

The endowment of this school by its liberal patron was made on the express condition that all profits arising therefrom should be faithfully applied to its further improvement, and for enlarging and improving its facilities for instruction.

There are ten Packer scholarships, determined by the faculty; eight endowed scholarships, and ten grammar-school scholarships, the incumbents of which are selected, by competitive examination, from among the graduates of the Central Grammar School of Brooklyn. In 1882, gratuitous instruction was given, which, at regular tuition rates, would have amounted to more than \$3,000.

Aid has been received by this institution, from the State of New York, to the amount of more than \$30,000. The present endowment is about \$42,500.

The Presidents of the Board of Trustees have been: John Skillman, George Wood, Seth Low, G. G. Van Wagener, and the present President, A. A. Low, who has held the position since 1858.

ALONZO CRITTENDEN, A. M., Ph. D., was President of the Institute from its beginning until his death, January 23, 1883. He was born in Richmond, Berkshire county, Mass., April 7, 1801. At an early age he entered Union College, and was noted for the assiduity and devotion with which he pursued his studies. He graduated in the class of 1824, and went to fill a responsible position in the Albany Female Academy. Subsequently appointed principal of that institution, he remained until 1845, when he took charge of the Brooklyn Female Academy, which was burned January 1, 1850. Through Prof. Crittenden's promptness the school was re-established almost immediately. The growth, prosperity and advancement of "Packer" engrossed Prof. Crittenden's time and attention, and

was the principal study of his life. Nearly twenty thousand pupils from all parts of the Union have there been educated. Some idea may be formed of the vast influence of such an institution and such a man. He attained the highest rank and distinction as an upright, skillful educator and administrator. Alert, punctual, judicious and firm in his headship, he directed numerous and accomplished teachers, kindled the studious zeal, and won the affectionate confidence and regard of his pupils. He also found time to assist struggling genius and to encourage talent. Many a young man owes to his thoughtfulness and generosity the word which has helped him on to success. Prof. Crittenden was a member of the Church of the Pilgrims, and as an educator, citizen and man, was respected and esteemed wherever known.

Professor DARWIN G. EATON was chosen President of the Faculty in place of Professor Alonzo Crittenden, deceased, but was compelled to decline because of poor health. Prof. Eaton has been connected with the Packer Institute since 1851, or a period of thirty-one years, and has occupied the chair of higher mathematics and natural sciences with peculiar ability. His ripe scholarship and excellent financial knowledge, as well as his reputation as a scientist and chemist, are known all over the Union; and his laboratory is said to be one of the most complete in existence. His lectures and researches in astronomy have also been delightful contributions to both scientific and general knowledge, and have won the commendation of the most eminent specialists.

Prof. TRUMAN J. BACKUS, LL. D., the present President, was graduated from Rochester University in 1864, and held the chair of English Literature and *Belles-lettres* in Vassar College for the first sixteen years of its existence. He also re-wrote Shaw's Manual of English Literature, the well-known text-book. He is one of the leading educators of the day, and prominent in the lecture field.

BOARD OF TRUSTEES, 1883.—A. A. Low, Peter C. Cornell, Arthur W. Benson, Joshua M. Van Cott, R. P. Buck, S. B. Chittenden, Henry P. Morgan, Bryan H. Smith, Tasker H. Marvin, William S. Packer, A. S. Barnes, Ripley Ropes, Henry Sanger, A. B. Baylis; the Mayor of the City of Brooklyn, *ex-officio*; *President*, A. A. Low; *Treasurer*, Abram B. Baylis, Jr.; *Secretary*, Henry P. Morgan.

WILLIAM S. PACKER was born in Albany county, in the year 1800. He was left at an early age entirely dependent on himself, but this was only a stimulus to exertion, and he was noted, even in boyhood, for his energy, self-reliance and perseverance. In early manhood, he established himself in the fur-trade in Albany, and founded the house of Packer, Prentice & Co., afterwards removed to New York. His rare sagacity, his

strict integrity and his readiness to help younger men, who, like himself, had their own way to make, gave him an enviable reputation among men.

On retiring from business in 1840, he came to Brooklyn to reside, and from that time thoroughly identified himself with this city, entering heartily into all plans for public improvement. A man of broad views, he believed in the future of Brooklyn, and devoted time, influence and money, to aid in establishing institutions for the good of the people. He was one of the founders of the Brooklyn City Hospital and of the Brooklyn Female Academy, and contributed liberally to the building of various churches. The population of Brooklyn at that time was less than 40,000. The village character still belonged to it, though it had been organized under the form of a city government a few years before.

All the important institutions and public works, which have since been commenced or accomplished here, were then still in the future, and the residence in the place of a man like Mr. Packer, who, though modest and unobtrusive, had foresight, courage, enterprise, and influence with men, and who used his means with intelligent liberality, was therefore a matter of public importance. It opened before him a quite unusual opportunity of usefulness, which he gladly improved, and his energetic public spirit, with that of others with whom he was associated, has had its worthy and splendid memorial in the subsequent development of the city. He died at the close of 1850, and the Packer Collegiate Institute opened in 1854, was built by his widow with the desire of associating his name with some permanent public good.

Brooklyn Heights Seminary, 136, 138 and 140 Montague Place.—This institution for the education of young ladies was established by Prof. Alonzo Gray, LL. D., in 1851; and, nine years later, passed, on his death, into the hands of the present principal and proprietor, Charles E. West, M. D., LL. D., formerly the Principal of the well-known Rutgers Female College, in New York city, during its palmy days.

Dr. West has devoted himself for some forty years to the important subject of female education, studying the matter in all its branches and bearings, and ascertaining, by a comparison of the systems of instruction employed in America and Europe, the most suitable methods to be adopted in carrying out his aim. By close application, and by giving himself over altogether to his subject with commendable zeal, he has succeeded in accomplishing his purposes.

The seminary is situated in one of the most eligible streets in Brooklyn, near the East River, and within a few minutes of New York. The edifice is seventy-five feet front, sixty-three in depth, and five stories in height. The school-room is large and well ventilated. The remainder of the building is occupied as

a parlour for the principal and for the accommodation of young ladies from abroad.

The seminary is divided into two departments, junior and senior, each of which is subject to subdivision. The course of study comprises mathematics, science, and English, ancient and modern languages, and the pupils also enjoy the benefit of the excellent library, and choice art collections accumulated by Prof. West [whose modesty alone has placed an insuperable bar in the way of our speaking of him, and of his works in the manner which we desire.—EDITOR.]

The Brooklyn Collegiate and Polytechnic Institute.—After the burning of the Brooklyn Female Academy in 1853, and the generous desire of Mrs. Packer to found and endow an institution in its stead, for the higher education of women, the insurance received on the burned building, and the sale of its site, constituted a fund to be returned to the stockholders, or, with their consent, to be transferred to an institution for the higher education of boys and young men. A few days after the fire, Messrs. James How, Dr. J. S. Thorne, Edward Anthony, Cyrus P. Smith, Luther B. Wyman and John H. Prentice, held a meeting at the house of the latter and selected the first Board of Trustees of the Brooklyn Collegiate and Polytechnic Institute.

At a subsequent meeting, held April 3, 1853, Messrs. L. B. Wyman, George S. Howland, R. S. Tucker, J. E. Southworth, Isaac H. Frothingham, John T. Martin, H. R. Worthington, D. S. Landon, C. S. Baylis, J. C. Brevoort, J. S. T. Stranahan, S. B. Chittenden, James How, and J. O. Low, were chosen Trustees to which Board, H. B. Claffin, J. L. Putnam, and Chas. R. Marvin, were shortly afterwards added. January 20th, 1854, Isaac H. Frothingham was chosen President of the Board; Josiah O. Low, its Secretary; John T. Martin having been previously chosen Treasurer.

January 31st, 1854, the present site of the institute on Livingston street, 103 feet wide by 150 feet deep, was purchased, and soon the erection of a suitable building was commenced.

About the middle of September following the institute was opened, with the following *Faculty*:

John H. Raymond, D. D., LL. D., *President*; Geo. W. Collord, *Latin and Greek*; Richard S. Smith, *Mathematics*; Cyrus S. Smith, *Natural Science*; Jean Gustave Keetels, *French and German*; R. R. Raymond, *Rhetoric and English*; E. C. Symonds, *Principal of the Law Department*; John C. Griffiths and Nathan Ballard, *Instructors*.

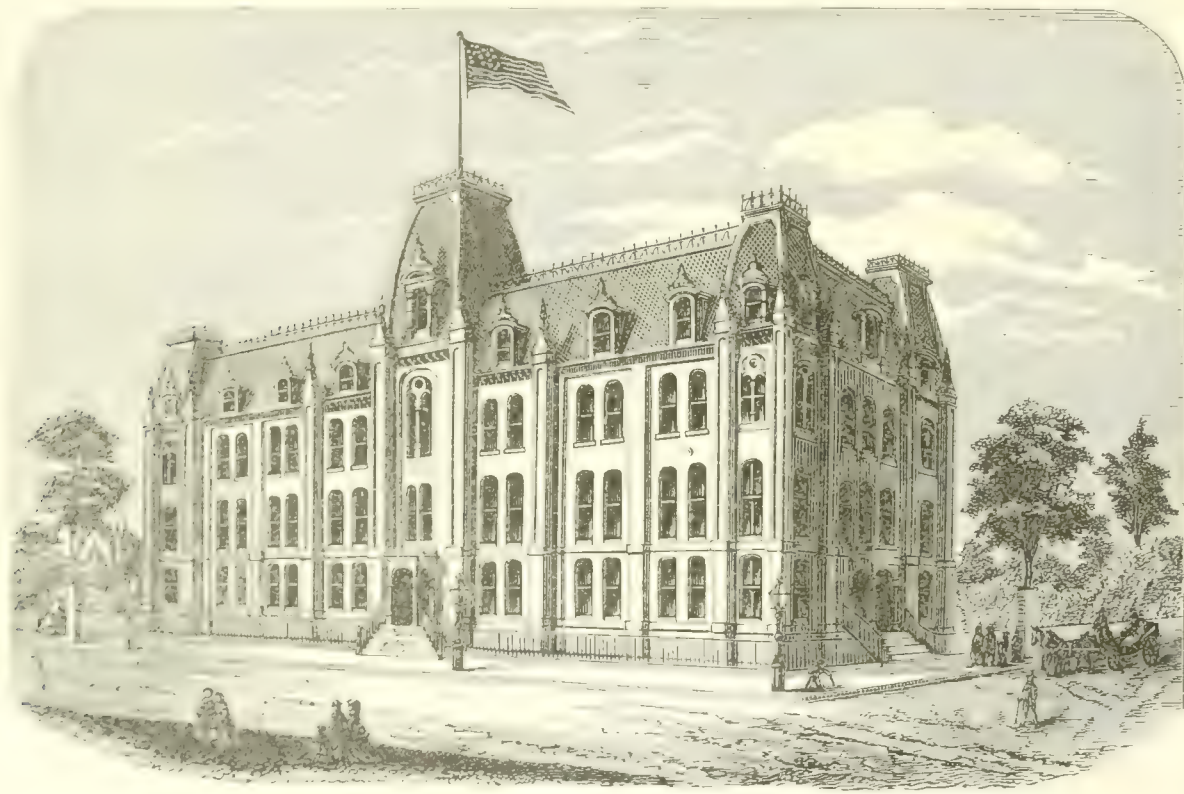
Dr. RAYMOND, who left the Polytechnic to accept the Presidency of Vassar College (which position he held till the time of his death), was succeeded by DAVID H. COCHRAN, Ph. D., one of the most thorough scholars and accomplished scientists of Brooklyn.

Brooklyn Juvenile High School.—This school was organized in May, 1854, by Misses A. S. Doolan

and W. B. R. ... the Brooklyn Institute. It slowly but steadily increased in numbers, until its accommodations became entirely too small, and the principals, in 1865, purchased three lots of ground on Livingston street, near Court, and at once commenced the erection of a large and commodious building, forty-six feet front by seventy-eight feet deep, and three stories high. This building was opened for the reception of pupils, in April, 1866; and one year afterward, finding their play-ground too limited, they purchased two lots of ground running through to Schermerhorn street. The entire cost of the grounds and building was \$48,600. The school was designed, especially, for the thorough instruction of boys under

T. J. Ellinwood became a partner with Mr. Lockwood, and the new edifice was opened for use, February 4th, 1868; the old quarters being kept as a preparatory department.

The academy progressed rapidly; and, its importance being appreciated by the citizens of the neighborhood where it was located, a movement was inaugurated by Mr. Lockwood to place it upon the firm and enduring basis of a public endowment and incorporation. In June, 1869, therefore, the property was sold to Messrs. William S. Woodward, Buckley T. Benton, Alfred S. Barnes and others, for the sum of \$100,000, and in August following the property was dedicated to the use and benefit of the public. The institution was duly



ADELPHI ACADEMY

twelve years of age, in the rudiments of an English education.

The Adelpi Academy, Lafayette avenue, corner of Hall street, was started at 336 (old number) ... by A. ... and Edward S. Bunker, both of whom had been long connected with the Polytechnic Institute. They sold out, shortly after, to Mr. J. Lockwood, who opened in September, 1863, with eleven pupils; and so rapid was the growth of the school that larger quarters were found at Nos. 338 and 340 Adelpi street, and, on the 23d of July, 1867 (the pupils at that time being over three hundred), the corner-stone of a large and elegant school building was laid at the corner of Lafayette avenue and St. James place. During the same summer, Mr.

incorporated, with a Board of twenty-four Trustees, Dr. Budington, President. Disagreements with the new Board of Trustees led to the resignation of Mr. Lockwood, who was succeeded by Col. Homer B. Sprague as Principal, from October 10, 1870 to 1875, followed by Prof. Stephen G. Taylor, Ph. D., to 1883. The school has collegiate, academic, preparatory, art and music departments, with a spacious room for physical exercise.

The building consists of the main edifice and two wings. The western wing was erected in 1871, at an expense of \$40,000, which was donated for the purpose. The eastern wing was built in 1879, through the liberality of Messrs. Charles Pratt and H. W. Wheeler. The basement is fitted up as a calisthenium and gymnasium.

The curriculum of study embraces the branches usually taught in primary, preparatory, academic, and collegiate institutions; and both sexes are admitted to all the grades of instruction.

The Principals of this academy have been: John Lockwood, till May, 1870; Col. Homer B. Sprague, from September, 1870, to June, 1875; Stephen G. Taylor, from September, 1875, to June, 1883, and A. C. Perkins, Ph.D., the present principal. The average attendance has come to be . . .

In 1873, the Adelphi annual course of lectures was inaugurated, and it has ever since been maintained.

Lockwood's Academy (for both sexes), 139 and 141 South Oxford street. Mr. John Lockwood, after

set on foot looking to the establishment of an institution that would meet the wants of Catholics in this respect. The foundations of the College of St. John the Baptist were laid in the summer of 1868, and the building was opened for educational purposes Sept. 6, 1871. Rev. J. T. Landry, C. M., was first President, serving from the opening until January, 1876. Rev. P. M. O'Regan, C. M., succeeded him, and held the position until September, 1877, when Rev. A. J. Myer, C. M., was appointed. Rev. J. A. Hartnell, C. M., followed him in January, 1882, and still fills the office.

This institution, the only Catholic institution in the diocese possessing the privileges of a university, has always enjoyed a high reputation for the thoroughness



ST. JOHN'S R. C. COLLEGE, WILLOUGHBY AVENUE, CORNER OF LEWIS AVENUE.

his retirement from the Adelphi Academy, of which he was the founder, was requested, at a public meeting, by a resolution unanimously adopted, to open another school in the neighborhood, to be conducted on the same principles which had given such prosperity and fame to the Adelphi Academy; and the present name was then proposed. Agreeably to that invitation, and with all but two of his former grade teachers, he opened the school, which, within three years, reached an aggregate attendance of 375 pupils. It is Mr. Lockwood's intention to secure its incorporation.

St. John's College.—One of the principal objects Bishop Loughlin had in view in calling the priests of the Congregation of the Mission into his diocese, was to afford Catholic youth facilities for a higher education. Accordingly, soon after their arrival, measures were

of its training in the higher branches of education. To keep their colleges on a level with the best colleges of the state; to fit young men for a successful and honorable career in business, in professional pursuits, or in the holy ministry, has been the constant aim of those connected with this institution.

The Brothers of St. Francis have founded and now conduct several educational institutions in Brooklyn, which well deserve mention.

St. Francis of Assisi founded three orders during the early part of the 13th century, the first called of Friars Minors, who were principally priests; the second called of Poor Clares for women; and the third order for men and women. The Brothers in Brooklyn belong to the Third Order, whose primary object is to instruct youth in the principles of their religion, and in the

branches of education proper for business, and for the learned profession.

The first house of the order in this country was established at *Easton, Pa.*, where the Brothers conduct a college, and, in connection with it, several schools. The Brooklyn house was commenced in 1858. In 1859, a building on Baltic street, near Court, was purchased for a school, and a place of residence for the Brothers. It had been previously used for a short time as a public school, and also as a place of worship. This became known, from that time, as *St. Francis' Academy*, and it formed the nucleus of the monastery and college which takes its place. It has a frontage of 125 feet on Baltic street, and extends through the block to Butler street.

Although Catholic education is not yet systematised throughout the Union, it is virtually established; and the rapidity of its growth, and its successful development and results, seem from a Catholic standpoint, to be phenomenal. Notwithstanding the comparative poverty of its supporters, yet, owing to their generosity, the Brothers have been able to make great improvements both in the appearance of the college and in the efficiency of its working.

In 1871 Bro. Jerome, the present superior, who had been about five years at the head of affairs, extended and raised the old building, and added a new wing larger than the old one, with the additions, and had the name changed to

St. Francis' College, a title by which it has since been known. The course of studies pursued embraces the mathematics in their various departments, English Literature, Rhetoric, Mental and Natural Philosophy, Chemistry, Physiology and Anatomy. The modern languages are joined to the classical in the collegiate course, and to the commercial in the business course. Music, Physical Culture and Elocution are made specialties. The number of students attending the college at present is 250; more than two-thirds of this number are day scholars, the remainder are boarders. The building and ground cost about \$115,000, and the apparatus and library about \$10,000 more. The philosophical and chemical instruments are of the most improved kind; a good supply of standard works on science and history is supplemented by a number of well-approved volumes on fiction; these supply the more advanced students all the information they require, while suitable reading matter is also provided for the younger.

The *Franciscan Brothers* in Brooklyn conduct, besides *St. Francis' College*,

St. Leonard's Academy.—Early in the vacation of 1870, the *Brothers*, with the approbation and encouragement of the most prominent residents of the *Easton, Pa.*, succeeded in obtaining a location for a dwelling and school at 190 South Fourth street. It opened with 30 boys, but the number steadily increased to 75, and the classes increased from two to four. In the spring of 1882 every available space was utilized to

meet the growing demands for admission. In April of that year a more spacious building was purchased, and the present location, a lot adjoining Nos. 138 and 140 South Fourth street, was purchased. The site is healthy and exceedingly respectable; the play-grounds afford most ample means of recreation to the pupils' hours of recess. Another large building is now in course of construction which will contain all the recent improvements, both sanitary and educational, of the first-class college. As the primary object of the academy is to impart a thorough commercial, scientific and classical education, the religious belief of all is duly respected. The course embraces all the branches of both a business and collegiate education. A rigid examination in all these studies is exacted before the honors of the Academy are received. This institution is one of the finest and most thorough of its kind in the city.

Besides those mentioned, the Brothers conduct two other academies and seven parish schools in the city. They will be mentioned in the order in which they were opened:—

St. Peter's Academy, Hicks and Warren streets, was given to the Brothers in September, 1870. Rev. Father Fransioli, Pastor. Pupils, 700.

St. Patrick's Academy, on Kent avenue, near Myrtle, was built by the Rev. Father Fitzpatrick in 1870. The Brothers took charge of it the following year. The number of pupils is 875.

St. Joseph's School, in connection with the church of that name, is situated on Dean street, near Vanderbilt avenue. The number of pupils (male) is 500. It was built by Father O'Neil, and had been a few years in operation before the Brothers took charge in 1859.

School of Our Lady of Mercy, in Debevoise place, built by Rev. Father McKenna. The Brothers took charge in 1861, at its completion. The number of pupils is 450.

St. Mary's School, "Star of the Sea," on Nelson and Court streets, was built by the Rev. Father Cassidy in 1868. The Brothers took charge of it immediately. Pupils, 530.

St. John's School, 21st street, near Fifth avenue, was opened by the Brothers in February, 1870, by Rev. Hugh Maguire, Pastor. Number of pupils, 350.

St. Charles' School, Sydney place, was taken in September, 1870; Rev. Dr. Freil being Pastor. This, as well as the last school, was in operation before that time. Number of pupils, 350.

St. Anne's, on Front street and Gold, built by Rev. Father Gleason, in 1873. The Brothers have charge of it since that time. The number of pupils is 500.

In 1882, the Brothers went to the

School of the Assumption, in York street, near Jay. The number of pupils is 300.

In these schools, a business course is given; in *St. Patrick's* and *St. Peter's Academies*, elocution, music

and a few other extras are added. Most of the others have one or more of these branches taught.

The Brothers have two outside branches, one in Rondout, N. Y., and the other in Minnesota.

Academy of the Visitation,* B. V. M., 209 Clinton avenue, was founded by Bishop Loughlin in 1855, and in 1867 was incorporated as the "Female Institute of the Visitation."

For more than twenty years the Sisters pursued the work of education in their first home on Johnson street, corner of Pearl street. In May, 1880, the Institute was removed to the residence known as the "Halkey Homestead," 209 Clinton avenue, where a flourishing school for young ladies is maintained.



ACADEMY OF THE VISITATION.

The new building, now in course of erection, is of Jersey free-stone, with a frontage of 220 feet; the chapel is in the centre, with the convent and academy on either side. Designed in all the simplicity of monastic mediæval art, it presents an exterior at once pleasing and imposing, and will add another feature of interest to a neighborhood already unrivalled in Brooklyn.

The Academy of the Visitation, Villa de Sales, was established in 1864, at Bath, and, in 1865, it was removed to Parkville; in 1869, it was incorporated under the above title. In 1877-'8, a large brick building was erected for the use of the institution.

St. Francis de Sales Institute, on Summer street, between Stone and Rockaway avenues, was opened by the Sisters of St. Joseph, September, 1877, as a home and school for boys. The Sisters who reside here also teach the church school attached to St. Francis de Sales Church, on Broadway.

St. Joseph's Academy, 834 Pacific street; established about 1878; in charge of the Sisters of St. Joseph.

St. Agnes' Academy, 396 Sackett street. Full academic course, under the direction of the Sisters of St. Joseph.

* The Order of the Visitation was founded by St. Francis de Sales, Bishop and Prince of Geneva. The first house of the institute was at Annecy, in Savoy. The Institute was erected into a regular monastic order in 1618 by Pope Paul V. This order rapidly extended over France, but there were no houses here until 1840, when there were four sisters only. The introduction of the Order of the Visitation into the United States was due to the Most Rev. Leonard Neal, Archbishop of Baltimore, and Miss Alice Lalor. The first monastery of the Visitation in this country was founded at Georgetown, Md., December 28, 1846.

Deane's Academy, 418 Carleton avenue.—Prof. Alfred T. Deane taught in the Bermudas for twenty-five years. Coming to Brooklyn about 1876, he opened a school for the usual educational branches, with primary department and special department for penmanship.

The College Grammar School, Hamilton Building, was organized September, 1879, by Rev. E. B. Tuttle. There are five departments, viz.: preparatory; junior, senior, or business class; classical and scientific. The Rev. Levi Wells Hart, A. M., of Yale College, is the present Principal. Physical culture is secured by gymnastic appliances and military drill.

The Athenæum Seminary for Young Ladies and Girls; established 1869. Geo. N. Bigelow, A. M., Principal.—Has three departments, viz.: preparatory, sub-collegiate and collegiate. Mr. Bigelow was for many years head of the State Normal School, Framingham, Mass., and is thoroughly acquainted with the school systems and methods of instruction in vogue in this country and Europe.

Greene Collegiate Institute, for young ladies and children, 277 Vanderbilt avenue, was established by the Carmen Sisters (so-called), in 1863, and was for a long time located on Clermont avenue, between De Kalb and Franklin avenues. It was removed to 277 Vanderbilt avenue, where it now is, four years ago. It has always been a school of superior reputation, the three Carmen Sisters conducting it with very fine success. In 1883, it was purchased by the present proprietor and principal, Rev. Harris R. Greene, A. M., and now has sixty-five or seventy pupils, ranging from five to twenty years of age. It offers a full and complete course of study—preparatory, academical, collegiate—and has an excellent corps of teachers.

Brooklyn Preparatory School, Music Hall; established 1879, by Prof. C. H. Carpenter. Dr. S. G. Taylor became co-principal in 1883. Five grades of instruction, including primary and intermediate departments.

Friends' School, in Friends' Meeting House, Schermerhorn street; established about twenty years ago, under the care of the Society of Friends.

Charles C. Taylor, 163 Clymer street.

Nassau Institute, 429 Classon avenue; established 1867; has collegiate, academic, primary and kindergarten departments. Misses M. R. Hotchkiss and K. L. Maltby, principals.

Stern's School of the Languages, 177 and 178 Montague street; established 1880, as a branch of Prof. Sigmon M. Stern's school in New York city.

Clinton Avenue Institute, corner of Greene street; established about 1876. Mrs. J. T. Graham and Miss J. W. Chandler, principals.

The Misses Crawford's School, 28 First Place; established 1871; separate primary department.

Miss Whitcomb's School, 191 Clinton street; collegiate and primary departments, and special courses of study.

St. Luke's Academy, 163 Carlton avenue. Rev. J. H. Raden, director. English, French and German instruction in English and French department.

Prospect Heights Institute, 448 5th street; established 1876. Mrs. Carter, principal. Instruction in English, French, German and music.

Prospect Heights Juvenile High School, 56 St. Mark's avenue. Miss Hall, Principal. Established 1883. English and French department.

Christiansen Institute, 207 Schermerhorn street; established in 1872, 360 State street, by Mrs. G. C. Stacker (*née* Christiansen), Principal. Primary and intermediate departments.

Mrs. C. P. Lane's School, 479 Classon avenue; established 1883. Primary and intermediate departments.

J. Deghuee's Institute, 170 Pacific street. English, German and French school for boys.

Adelphi Institute, 182 Adelphi street. Primary school for boys and girls. Miss E. Miller, Principal.

Miss Round's Young Ladies' School, 525 Clinton avenue. Primary, intermediate and academic departments.

Miss S. M. Kennedy's French and English School, 211 Carroll street; established about 1874.

St. Francis' College, Baltic street, near Court. Classical, scientific and commercial departments. Boarding and day school.

Mrs. Harvey's School, 148 Pierrepont street. Primary department for boys and girls.

Cheneviere Institute, 153 Schermerhorn street; opened in 1865. Prof. W. A. Flamm. English, French and German boarding and day school for young ladies and children.

Brooklyn Hill Institute, 350 Washington avenue. Boarding and day school for young ladies. Preparatory and collegiate course. Mrs. S. C. Baker, principal.

Mrs. C. Whittaker's School, 33 Lincoln place; established 1879. Kindergarten department.

Prospect Park Institute, 110 Prospect place. Scientific and classical departments. R. D. Dodge, Principal.

Chadwick and Pye's Preparatory School for young ladies; established several years.

Irving Academy, established 1872. Academic and primary departments. English, French and German taught.

R. Heinmann's German and English day school, 119 Hoyt street.

Miss Hartt's School and Kindergarten, 333 Adelphi street.

Mrs. Roberts' German-American day school for young ladies and children, 154 Montague street. Five departments, including kindergarten.

Miss A. Zarn's German, English and French Institute, for young ladies and children, 171 Warren street.

Madame Giraud's French and English school for young ladies and children, 399 Gates avenue.

Miss Cuthbert's School; young ladies and children, 126 High street.

Mr. and Mrs. Ferris' Boarding School for children, 749 Bushwick avenue.

Bedford Institute, for young ladies and children, 241 McDonough street. M. Purdy, Principal.

Mrs. Maynes' Art Institute and Kindergarten, 63 St. Felix street.

Mrs. F. W. Dixon, school for boys and girls, 39 Schermerhorn street.

Mme. E. Simonson's German, English and French School; young ladies and children; 254 Warren street. Kindergarten department.

Miss Forbes' School for young ladies and children, 174 Macon street.

Mr. Dunne's School for boys, Athenæum Building; established 1876.

Mrs. Edwin S. Adams, 119 Quincy street. Primary and intermediate.

The Brooklyn Froebel Kindergarten; established in autumn of 1877, in Fulton street, and removed to 76 Montague street a year after; for the last five years it has been located at its present place, 210 Clinton, south-west corner of Atlantic street. It is conducted by the Misses M. and E. F. Sharpe.

Miss Mynens' German, English and French School, for young ladies and children, 193 State street; established 1869.

E. M. H. School for Boys, 2 Lafayette avenue. Prof. Cole, Principal.

Miss E. F. Sievwright's School for boys and girls, 624 Lafayette avenue.

Miss Wilson's English, German and French School, for young ladies and children, 386 Waverly ave.

Brooklyn Conservatory of Music, No. 168 State street.—In 1866, Professor J. W. Groschel founded this institution, which is now under the management of Miss Louise Groschel and Mrs. S. Groschel-Chadick, his daughters.

The course of instruction embraces all branches of music, both theoretical and practical, private and in classes, including piano, cultivation of the voice, violin, violoncello, harmony and composition.

Columbia Conservatory of Music, Bedford avenue and Fulton street.

Mollenhauer's College of Music, 73 Livingston street; established 1868.

The Business Colleges, which form so marked a feature of modern education, and which are devoted to the especial training of those who are preparing for business, or commercial careers, are four in number, viz:—

Browne's Business College, 304 Fulton street; established 1860; contains business, preparatory and

writing departments, under the care of its Principal, T. R. Browne, A. M.

Wright's Business College and Eclectic Academy, Broadway, corner of Fourth street, Brooklyn, E. D. —Established 1873, by Henry C. Wright, its present Principal, is the largest private educational institution in the Eastern District of Brooklyn, and has between three and four hundred students annually. The studies pursued are arranged in three divisions—commercial, classical and academic.

Kissick's Business College, 192-4 Fulton street. Business, classical and mathematical departments.

The Bryant and Stratton Business College, Charles Claghorn, principal and proprietor, was established in the fall of 1861, in the Hamilton Building, its present location. The windows overlook the open park surrounding the City Hall, thus securing to the spacious study-rooms, with their high ceilings, the purest air and the best light.

The design of the institution is to fit young men for whatever duties may come to them in business, commercial, or professional life; and, although the instruction is special, and has reference to certain attainments as preparatory to certain positions and labor, the entire course of training aims at symmetrical development, and is calculated to strengthen the mental powers and give a broad and substantial culture.

The association of business colleges originating with Messrs. Bryant & Stratton, and re-organized under the title of the International Business College Association, comprises the most extended and complete effort of this kind in the world. The association comprises not less than forty separate and distinct institutions in the United States and Canada, having a representative in all the largest commercial cities on the continent, extending from Portland to San Francisco, and from New Orleans to Montreal. This is a co-working association in an important sense, although each school thereof is entirely independent as to its own management, and dependent for its support on its own patronage.

The studies pursued in these colleges are, first, book-keeping in all its ramifications and applications; commercial law, as covering every phase of personal rights and business customs; commercial arithmetic; commercial correspondence; political economy; civil government, and in several schools the modern languages, particularly French, German and Spanish.

The plan of intercommunication, as between the different colleges of the association, was in a great measure developed by the proprietor of the Brooklyn College, and the extent to which correspondence is carried on between the students in these colleges, may be better understood when it is stated that no less than one hundred letters are daily received by the Brooklyn College from the nearer institutions, namely: New York, Boston, Albany, Trenton, Philadelphia and Baltimore. These letters contain shipments of goods—representative merchandise in the shape of cards, with the kind and quantity of goods printed thereon—to be sold on account of the shipper, or joint account of the shipper and the consignee, or to fill orders of purchase from the person to whom shipped; also account sales of consignments, which have been sent and sold, with the returns in the way of drafts, checks, or current money; and, in fact, embracing all the details in every direction, characteristic of business correspondence and business transactions between leading houses in the large cities. This affords a most excellent opportunity for criticising the work of the student, and has the ad-

vantage of promoting wholesome competition between the students of the separate institutions, and in every way serves to liberalize and quicken the mind and prepare the aspirant for that wider field of usefulness which awaits him.

The daily routine of the College is as follows: The sessions are held five days of the week, commencing at nine in the morning and closing at two in the afternoon. The students are expected to be prompt and regular. The first hour of the morning is devoted to lessons in writing, with the exception of a few minutes given to roll call; brief lectures or hints from the professors, and sometimes readings and recitations by the students. Great stress is put upon writing. There is a severely practical character to the writing practised in this College, which will compare favorably with the established styles of the best business houses anywhere. The institution has a constant and increasing demand, from merchants and others, for clerks and accountants, owing principally to the fact that nowhere else can one be so sure of finding well-trained business writers. In the College proper there are two departments: one the initiatory or theoretical; the other the advanced or practical. In the first department, the theory of accounts is thoroughly taught in a series of exercises adapted to that end, and presenting every phase and bearing of business affairs; of gains and losses; of adjustments between partners; and all the intricate questions and applications which are so apt to trouble the brain of a neophyte.

In connection with the study of accounts in this department, the other branches, viz., arithmetic, commercial law, modern languages, etc., are carried on *pari passu*. From three to six months are spent in these preliminary studies, when the student is advanced to the practical department. This department is simply a miniature business world. Very little teaching is done here. The student is supposed to have received his theoretical education, and to have entered upon business life, where his theories are to be put in practice. In the practical department he begins as a small merchant; is furnished with capital sufficient for his business, and is instructed generally how to proceed. The details of his transactions he is expected to carry out himself. A thorough working bank is in operation, and he must negotiate his loans, make his collections, and keep his deposits therein. He conducts his business to its conclusion; declares gains or losses; closes up his books, and holds his capital for some other department of trade.

He thus goes on from one sort of trade to another, until he has covered the leading business enterprises of the country. He is then advanced to a position in a large jobbing house, where he is made familiar with all the routine of purchasing and selling, and all the details requisite in real business. He fills here all positions, from the lowest subordinate to the highest or manager's position. He is then advanced to the merchandise emporium or general agency, which holds the key to the entire workings of the business community, and gives a practical illustration of the laws of supply and demand. He passes regularly through the transportation office, where he gets a practical idea of the rates of transportation, and the minute details and manipulations required; through the various kinds of commission and shipping houses and post office; through the bank, where all his previous knowledge is tested by the severest financial calculations and applications. He commences as a runner; is advanced to the positions of collection clerk, bill clerk, discount clerk, receiving teller, paying teller, individual book-keeper, general book-keeper and cashier. The transactions in the bank are as complete and perfect as those in any actual working institution, as it is the financial agent of the entire business community, re-

posits, paying out on checks, discounting paper, and attending to all the financial matters between the students of the College where he is located and those of corresponding institutions. As the final test to his proficiency, he is put in charge of all the offices as general superintendent, and is made responsible for the entire workings of the community; while in the practical department, which occupies from six to nine months, and often a year, the student is in constant correspondence with the students in the co-working institutions of the other cities, as before intimated. The practical department bears the aspect of an industrious, thriving, ambitious business community. Each student is, to all intents and purposes, a business man, and regards himself thus; he forgets that he is a mere pupil, but assumes and feels the dignity of his position, as one who is managing his own affairs; his attitude and conversation are business like; he has no thought of his transactions being other than real; and, for all purposes of training, the system is as thorough and severe as could be adopted in connection with real life.

CHARLES CLAGHORN, the proprietor and presiding genius of the Bryant & Stratton Business College of Brooklyn, was born in Williamsburg, Mass., November 13th, 1836. His ancestors were Scotch, and many of them were noted as ship-builders and seamen. A branch of the original family came to America, and settled at Martha's Vineyard, previous to the beginning of the eighteenth century. Col. George Claghorn, an uncle of Mr. Claghorn's, was the builder of the frigate "*Constitution*," known historically as "Old Ironsides," and also of the first American whaler that doubled Cape Horn. She was a vessel of 185 tons burthen, was named the *Rebecca*, and was commanded by Captain Cornelius Grinnell, father of the late Moses H. Grinnell.

When quite a young man, and while being employed during the day, Mr. Claghorn organized a class of companions for mutual improvement during leisure evenings, giving special attention to penmanship and book-keeping. Forming the acquaintance of a government clerk who had formerly been stationed at Harper's Ferry, Va., as an accountant, Mr. Claghorn went under his practical tuition, with such success that he soon acquired the rudiments of a good business education, which was finished at the Bryant & Stratton Business College at Albany, of which he enjoyed the distinction of having been the first student to enter. He became so proficient in keeping accounts that, when he afterwards caught the then prevalent western fever, and went to Illinois to seek his fortune, he was able to secure and retain a good position as clerk in a general frontier store.

Mr. Claghorn, however, soon embarked in business for himself, and during the period of its continuance his services as an accountant were in frequent demand. One call to which he responded was from Mr. M. L. Sullivant, who owned a farm in Illinois of 28,000 acres, all under cultivation. On this farm the proprietor kept 2,500 head of cattle, and at the same time (during the

late war) the United States Government had 3,000 head of horses pasturing there. One hundred horses were employed in working the farm, and it was a part of the duty of the young accountant to keep a record of all these animals, each by its name, stating on what section of land each was employed each day, the amount of work done, and other pertinent facts. At night he had to call the long roll, and the foreman of each of the several gangs of teamsters and workmen came to him and rendered his report. These facts are mentioned to show the immense scale upon which farming was carried on in the West, as well as to indicate one of the influences which tended to give Mr. Claghorn the broad and liberal views on general matters which are characteristic of him.

After a varied and valuable experience in business life in the West, with his health impaired by constant application, yet with all the energy which has since manifested itself so conspicuously, Mr. Claghorn came to New York in 1865, and became a partner with Mr. S. S. Packard, in the management of the Commercial college there, his practical experience in business affairs ensuring the success of the enterprise with which he connected himself.

The aim of the proprietors of the New York College to place business education on a higher plane than it had before occupied, to broaden its scope, to make a larger place for it in the educational field, and to make the college itself superior to all other institutions in the same line of work, having been, to a great extent, realized, it was deemed desirable to secure the Brooklyn College, provide it with equal facilities, the same course of study and methods of discipline, and to make the two institutions co-operative in work; accordingly, the purchase was made, and the college was taken possession of by Mr. Claghorn, in February, 1875, who entered on the duties which he has prosecuted with increasing success year by year.

Mr. Claghorn comes of the good old New England stock, and is a fair representative of its virtues and its peculiarities. His father was born in Bryant's town of Cummington, Mass., and had the rugged experience of those who had to scratch a subsistence out of the stony soil of that hilly country. He was a captain of militia, and a soldier for a brief space in the war of 1812. His family were reared in the humblest and most frugal way, and the boys early developed a talent for work. Charles was the ambitious boy, and when he sought for broader fields he took with him the habits of industry and thrift that had marked his early training. He inherits a hopeful nature, and bravely encounters obstacles that would discourage more timid souls. He has also the rare faculty of making other people see through his eyes, and his optimism is contagious.

He has a particular hold on young men, and the confidence which he inspires he holds through all



Edgar Allan Poe

vicissitudes. His pupils, whom he always makes his friends, never "go back" on him, and he is able, through their loyalty, to hold his own in the midst of competition, and through his own loyalty to the right to keep himself and his institution at the head.

He is, above all things, practical, and this order of mind is stamped upon his methods of instruction. His aim seems ever to be to have his pupils carry away with them those substantial acquirements which he knows to be immediately available in business; and if they get the essentials of business training, he does not trouble himself much about the non-essentials.

In politics, Mr. Claghorn is a Republican. He is one of the trustees of the Brooklyn Revenue Reform Club. He takes a deep interest in Brooklyn and its development, and especially in the city's various charitable objects and institutions. He was married at Indianapolis, Indiana, in 1862, to Martha S. Holliday, of that city. He is a member of Plymouth Church.

Among the leading educators of this city may be mentioned the following:

J. Q. Allen.....1611 Pacific street.
E. Bush.....239 Hewes street.
T. R. Browne.....304 Fulton street.
Geo. M. Bigelow.....Atlantic street, c. Clinton st.
Chas. H. Carpenter.....177 Fort Greene place.
Jas. Cruikshank.....206 South Oxford street.
Chas. Claghorn.....44 Court street.

Bryant & Stratton's Business College.

C. T. Clow.....Union ave., n. South Third st.
Richard Crony.....City Hall.

Clerk of the Board of Education.

John K. Dunn.....173 Atlantic avenue.
L. Dunkley, Jr.....165 Adelphi street.
E. R. Duyckinck.....South Fourth, n. Seventh st.
A. T. Deane.....418 Carleton avenue.
D. G. Eaton.....170 Joralemon street.

Packer Institute.

Benjamin Edson.....83 St. Mark's place.
Eliza Ford.....Fifteenth st., n. Fourth ave.
C. Warren Hamilton.....East New York.

School Commissioner for the County Towns, and
Author of the *History of New Lots* in this work.

Alfred E. Ives.....14 Clinton place.
W. M. Jelliffe.....196 Sixth avenue.
M. C. Lawrence.....198 Madison street.
L. F. Lewis.....116 Fort Greene place.
James Priddy, Principal, 996 LaFayette avenue.
Evelina L. Petty.....113 Rutledge street.
S. M. Sprole.....668 Carroll street.
Tatian Brothers.....256 Pearl street; 250 Jay st.
M. F. Vallette, Principal, 199 Spencer street.
Chas. E. West, Principal, 138 Montague street.
A. Whigham.....Flatbush.
W. A. Kissick.....192 Fulton street.

Anna J. Moore.....Clinton and Myrtle avenues.
Kate E. McWilliams.....4 Bedford avenue.

Principal.

G. A. F. North.....Wyckoff av., n. Atlantic av.
Peter Rouget.....402 Pacific street.
C. Rounds.....525 Clinton avenue.

With schools for *dancing* Brooklyn is well supplied.

C. H. Rivers' Academy, 175 Court street.

CHARLES H. RIVERS. That the future of a nation depends upon its youth is an established truism. A land in which the children are reared in ignorance and vice, be it slowly or rapidly, inevitably ends in futility. No sound idea can come from a brain fed by an unsound body. It is one of the gratifying signs of the times that the attention paid to the physical and mental development of our young is steadily increasing; the food they should eat, the physical exercise they should take, and the hours devoted to study or to play, are carefully planned and laid out by physiologists and specialists. There is no part of the education of a human being more difficult to attain, or more valuable when acquired, than that expressed by the term, *fine manners*. No single acquisition is so ready a passport to the best circles in commercial, professional or social life. The history of the past records no time when dancing, properly conducted, has not been thought a valuable auxiliary in forming correct deportment.

The teaching of dancing, in the hands of one thoroughly imbued with the true spirit of his art, means vastly more than the mere mechanical correctness of step, or easiness of movement. He understands, that while temporary pleasure is the superficial result usually sought by the pupil, that beyond this, intrusted to his care, is the bodily and mental health, and in a large degree the molding of the habit of thought, mode of speech, and manner of carriage of the scholar. In a large degree the essential qualifications for a teacher of "dancing and deportment" are possessed by Mr. Charles H. Rivers, the subject of this sketch.

Mr. Rivers was born in the town of Newburgh, Orange county, New York, January 20th, 1830. His father, Ebenezer, was born at Riverhead, Long Island, and resided there for many years; and his mother, Elizabeth, was born in Newburgh, living there until her decease, aged 84 years. At 16 years of age, being naturally ambitious to earn his own way through life, he began as clerk in the dry-goods establishment of Burns & Owen, New York city; then to Brink & Russell, Canal street, and finally with Arnold & Constable, Canal street, of the same city; when, in 1852, owing to failing health, and acting under the advice of his physician, he threw up this closely confining business, came to Brooklyn, and in what was then called the "White House," Nos. 283 and 285 Fulton street, commenced his present profession. In 1854, he changed to Montague Hall, where the Phoenix building now stands, which was then the principal dancing hall in the city, remained there one year, and the five years next ensuing was in the Halsey Buildings, 355 Fulton street. In 1862, he removed to Schermerhorn street, corner Court, and in 1867, came to his present fine location, No. 175 State street, corner Court. Mr. Rivers has been eminently successful in his chosen profession. He has charge of the departments at Packer and Nassau Institutes, besides many kindergartens and private societies. The average yearly attendance of scholars at his rooms is 500, and he instructs 200 privately during the same time; and teachers of dancing, from the principal cities of the states, come to him during the summer months for additional instruction.



CHARLES H. RIVERS.

The secret of Mr. Rivers' success is two-fold—natural fitness and indefatigable energy. As a father, he realizes the importance of correct moral precepts, mental and physical growth, and, as a man of the world, knows the advantages of an easy action. His efforts have been well rewarded, as his patrons comprise the best of our people. Mr. Rivers has a family of eight children, three of whom—Charles H., Jr., of Buffalo, N. Y., Harry F., of New York city, and Wm. Pitt, of Brooklyn—continue his teacher of dancing; the balance, with his estimable wife, *née* Maria H. Philips, whom he married in 1855, are enjoying the pleasure of a comfortable home in Brooklyn.

S. Baron's, 177 Montague street, established 1868.
 J. T. Uris & Son, 611 Fulton street.
 Weinlander's, 232 Carroll street.
 Prof. W. A. French's, 182 Gates avenue.

Frank Dodworth's, 198 Washington street, a branch of the well-known school in New York city.

Riding Academy.—This institution was established in March, 1866, by an association of gentlemen who were interested in horseback riding. A large brick building was erected at 470 Pacific street, covering six lots, and fitted up with amphitheatre, waiting rooms and stables. In 1880 it was enlarged. In 1881, the controlling interest was secured by Alexander de Gerlach, who has since retained the management. Some 40 horses are used, and lessons are given throughout the year. The very best people are patrons of the school, which annually teaches a large number of pupils.

FISH CULTURE ON LONG ISLAND.

BY EUGENE G. BLACKFORD,

N. Y. STATE FISH COMMISSION.

BROOKLYN MARKETS, ETC.

FEW localities of equal size offer to the lover of field sports so many inducements for excursions, away from the incessant turmoil and routine of city life, in search of "fin and feather," as do the waters, woods and fields of Long Island. This is especially true for those who find their enjoyment in gathering from the depths "off shore" specimens of those choice and delectable food-fishes—the striped and sea-bass, the bluefish, the Spanish mackerel, the sheepshead, weakfish, etc., etc.; and the Island has been celebrated, even from those much belauded "good old colony times," for that prince of fine fish-fellows, the brook trout. In fact, the Island seems to have been especially designed, in the primitive ordering of things, as a grand fish domain, since its form is a very excellent diagrammatic representation of a fish, with head seemingly bent on searching out, with fish inquisitiveness, the secrets of our metropolitan harbor and city; and the entire coast-line is ragged with bays and inlets, some small and some of vast extent, into which flow the waters from numerous streams which arise along the central portion, or ridge, of the Island, and which extend from thence into the sea along either side. These inlets and bays offer rich feeding grounds for the hordes of sea-fishes which wander along the coast, and afford fine camping localities for the luscious oyster; and the streams and lakelets, with their abundance of crustacean, vegetable and insect life, present unrivalled facilities for the growth of fresh-water species. The Island, as a whole, may be considered, almost literally, a vast spring bed. It is composed principally of sand and loam, with a sufficient quantity of clay and boulder drift; and the water from the ocean, which is forced in upon all sides, with steady and great pressure, rises among the little particles of rock debris, to meet the accumulated deposits of fallen rain, and then bubbles out in countless rills and rivulets of soft water, of crystal purity and almost icy coldness, which form the feeders of the Island streams. The requisite con-

ditions—an abundant supply of cold water and plenty of food—are thus seen to exist for the maintenance and growth of trout, as well as other fish, and so abundant and palatable is the food, and so excellent the water, that among *gourmands* the trout of Long Island rank as the first of their species. During the early history of the Island, these streams were free to all who wished to cast their lines in such pleasant places, and the fish themselves were somewhat favored in being allowed, for the most part, free access to the sea; but later the best fishing was in the neighborhood of private or semi-private streams, or ponds formed by damming the streams, and thus enclosing or caging a large or small number of fish. These fish were thus prevented, to a certain extent, from escaping, and were maintained in the ponds by transplanting from outside waters and by natural breeding. The fishing in these localities was confined either to the owners of the adjacent property, who, in most cases, were also the owners of the ponds or streams, or a certain sum was demanded for the privilege of trying one's skill in enticing the wily prey from its quiet abode. Some of these preserves, and the streams flowing from them into the sea—and which, in most, if not all, cases could not be guarded against the fly or worm of whomsoever wished to fish them—have in the past attained almost world-wide celebrity; and few of our old-time veterans of the rod but feel the anglers' thrill, and fight again their piscatorial battles, when Snedecor's and Carman's, or the ponds near Patchogue, Moriches and Smithtown are mentioned. But those days of sport soon passed away. Trout are among the very first of our fishes to disappear before the advance of civilization. This is due to two facts: first, they are a very desirable table fish, and are accordingly much sought after by every man or boy who can wield either a split bamboo, a wire snood, or the proverbial pole and line, with a bent pin at the end, as instrument of capture; and, secondly, the clearing up of the land destroys their lurking places, transforming the dark, deep holes, or pools,

through which the water is wont to flow with a quiet swirl, into mud holes; the rippling water reaches into bare sand-bars, and lets the full glare of day in upon the hitherto semi-secret recesses of the pathway of the brooklet. From these causes the ponds and streams gradually lost their attractions for the angler, until after Messrs. Remy and Gehin, of France, in 1849, and Messrs. Garlick and Ackley, of Cleveland, Ohio, in 1853, had demonstrated the practicability of propagating the trout by artificial means, and thus maintaining by human aid the supply which the fish themselves, unassisted, could not do. Under natural conditions, about five per cent. of eggs as laid by the parent fishes may bring forth young fish, and this is oftentimes a large percentage; but by the new method it was found to be possible to hatch from the ova, taken by hand from the fishes themselves and impregnated artificially, as high as 40 to 50 per cent. of young; and by feeding these artificially-bred youngsters with proper kinds of food, and keeping them in large and carefully constructed ponds, it was possible to raise a goodly share of them to maturity.

A new era seemed thus to open to the lovers of the trout. Ponds which had become depleted by over-fishing were again brought into service, and new ponds were formed all over the country. Long Island was inoculated from end to end with the new doctrines of "ponds' rights," and "rights to trout;" Brooklyn, Roslyn, Foster's Meadows, Oyster Bay, Cold Spring, Smithtown, Sag Harbor, Brook Haven, Patchogue, Islip, Babylon, Freeport, and Hempstead, each had their hatcheries and preserves, and furnished grand and beautiful specimens of the toothsome favorite; and probably the largest trout ever taken on Long Island, belongs to this period of trout enthusiasm. It was taken in Smithtown river about 1869, and weighed six pounds. But for successful trout raising, there must be something more than money with which to build ponds, and cold water to fill them; and with rare exception, the ponds instituted during the time of the trouting fever, caused by brilliant illusions as to the great profits which must necessarily accrue from artificial trout breeding, were abandoned, because, as they were managed, it was found that, from a market point of view, they could not be made to pay, and most of those who went into the undertaking had no other end in view than the dollars and cents to be gained by the venture, and, being ignorant of the practical details of this kind of culture, of course did not gather any great harvest.

There was no difficulty in hatching the fish and in raising them, but it cost more in the majority of cases to get them into condition for market than they brought when there. This was due largely to a lack of the right kind of experience and a close study of natural methods of growth in connection with the particular localities where the propagation was undertaken.

A very marked instance of this is to be found in connection with the breeding preserves of the South Side Sportsman's Club, near Islip. The club, during the earlier period of the trout-breeding excitement, obtained possession of the old and famous establishment of Snedecor's on the Connetquot river, and after trying for some time, but without much evidences of success, to breed trout in large numbers, they called for assistance upon Mr. Seth Green, who had been doing a good deal of work in this direction in the western part of the state, near Rochester. Mr. Green came on and inspected the river and ponds, and told the members what must be done to attain success. He also furnished them with a man supposed to be capable of accomplishing the desired result. But the result was no more satisfactory than before, until Messrs. Benkard, Rowland, Redmond and Clark, as the executive committee of the club, took the matter into their own hands, engaged a new man, who knew very little about fish work, but could and did do just as the committee desired him to, and from that time, which was about the year 1879, the success of the undertaking, from a practical as well as a sporting point of view, has been remarkable. It is, perhaps, the most successful effort of the kind in the annals of trout culture. The club, of which the late Recorder Hackett was a permanent member, now controls, including what it owns, about five thousand (5,000) acres of territory, with from five to six miles of ponds and streams. The property includes commodious club-houses, stables, kennels, hatching and breeding houses, and careful attention has been given to the California or Rainbow trout as well as to the eastern variety, and the club finds that, of the two, the Western form, is, if anything, preferable to the Eastern, for both food and sport, since it grows faster, is quite as fine in flavor, and is fully as gamey when subjected to the tantalizing mercies of the angler's delicate tackle.

There are now in the ponds of the club, trout of four and five pounds in weight, which were hatched on the premises from eggs received from the United States Fish Commission four years ago, and so abundant has been the supply of fish that some years the club has sent as many as three thousand (3,000) pounds to market. These sales represent the surplus fish over and above those needed to supply the demands of the 100 ardent and enthusiastic fishermen who form the club. The club has also been quite successful in raising the Kennebec and land-locked varieties of the salmon, although, as yet, very little time or attention has been given in these directions.

Here, then, is a very striking example of an old and celebrated stream, failing to meet the expectations and requirements under one kind of management, but, under another, yielding rich results. The gentlemen of the executive committee deserve great credit for working out this problem to so satisfactory an ending, and the

Club is to be congratulated on possessing an executive committee competent to show to the world of fish culturists, in so gratifying a manner, what can be accomplished when good sense, judicious feeding and soft water are combined in the manipulation of trout eggs and the management of the growing fish. Such a combination of conditions, when they can be found together, are very desirable in all efforts in fish culture; and, of the three, soft water has more to do with success in trout propagation than is generally supposed; for, even as "a soft answer turneth away wrath," soft water, other things being conceded, turneth out fish.

Some attention has also been given upon the Island to other species of fish than those belonging to the salmonidæ family. Among these fishes, the black bass has been most prominent, because it undoubtedly ranks next to the trout, among inland fishes, as a game species, and for table use. Most of the bass which have been introduced have been placed in the ponds and lakelets of the centre and eastern end of the Island, and the fish thus transplanted have been left to take care of themselves, since the black bass does not need human interference in its domestic arrangements, as it is one of the comparatively few species of fish that guards its nest and eggs, during the breeding season, against outside intruders; and, accordingly, a much larger percentage of young hatch out than with the trout, which leaves its eggs, after they are deposited, largely, if not entirely, unprotected from the tender mercies of its many enemies. In some, at least, of the cases of the fish thus introduced, the results have been very satisfactory. In Lake Ronkonkoma, the small-mouthed variety of the black bass was introduced about 1874, and during the past year (1883) great numbers have been taken with hook and line, and much sport has thus been afforded. Some of the fish thus taken weighed as high as five to eight pounds, and the last-mentioned one (that which weighed eight pounds) is now represented, by its prepared skin, in the Museum of the Long Island Historical Society in Brooklyn.

At Montauk Point, some of the ponds contain white perch, which afford fair fishing; and the German carp has been introduced at various points upon the Island within the past year or two. The especial value of this last-named fish is its rapid growth, and the little care required in its cultivation. It is largely a vegetable feeder, and will live in localities where few other kinds of fish will thrive, such as semi-stagnant ponds, ditches, &c., where there is a moderate depth and little motion in the water, moderate temperature, mud and vegetation. In favorable situations, they have been known to attain to a weight of five or six pounds in one season. Very little interest has been manifested, until within a year or two, in the preservation and increase of the food species of the coast waters. This has been due largely to the fact that most of the fishermen resent any inter-

ference with what they consider their vested rights—the privilege of gathering indiscriminately, and at all seasons, from the vast supplies of the ocean, and liberty to make use of those implements of capture, by means of which they can the most readily circumvent their prey and fill their vessels and pockets.

Many of the men and some intelligent ones, too, claim that, whatever may be the case with the fresh-water species, it is utterly impossible for man, by any means at his disposal, to materially diminish the number of fishes which swarm the ocean. This question is one which does not admit of hasty generalization; it requires a vast amount of careful, systematic study before a safe conclusion can be reached. Especially is this true, in view of the fact that certain species, after apparently having been fished out, will suddenly appear in incredible numbers, and it may even happen that, during most of a season, the catch of some particular fish will be so light that the entire time spent in fishing seems thrown away, when suddenly the waters will be actually alive with this particular species, and in a short time the catch will nearly compensate for months of idleness.

But even admitting this to be true, statistics show that it pertains almost entirely to those species which spawn in the open sea, and not to those which come into the bays, inlets and rivers of the country to deposit their ova; and it is very probable that extended statistics would show, and perhaps may be made to do so in the future, that much of the irregularity of the catch, and the consequent irregularity of profit, is due to an actual diminution of the "off-shore" fishes, consequent upon indiscriminate and wasteful fishing. This is the view of some at least of those who advocate the necessity of the artificial propagation of the sea-fishes; and many of the fishermen are forced to admit to-day that they cannot make the money or catch the number of fish they could years ago. Those species, which are of particular interest to the people of Long Island, because quite common in our waters, and hence more especially worthy of careful attention, are the striped bass, the Spanish mackerel, the blue-fish, the cod, the flounder and the oyster.

In the spring of the year, large striped bass, of from 30 to 50 pounds in weight, are caught in the neighborhood of Freeport; and, in the fall, specimens are taken off Montauk Point, weighing sometimes as much as 75 pounds. About 1871, 8,000 pounds of these fish were taken at a single haul at Montauk; and in 1881, 4,000 pounds were taken at a single haul at the same place. In July and August, Spanish mackerel are taken in considerable quantities in Gravesend and the Great South Bays. But where formerly five to ten thousand pounds could be taken per day, one hundred pounds per day now in Gravesend, and twenty-five or thirty pounds per day in the Great South Bay, would be a good yield. In the spring, flounders are taken at various points along

the south coast, although the principal gathering point is at Amagansett, at the eastern end of the island. The Long Island flounder is considered much superior to those from other points, and it has not been uncommon in past years to receive at New York, through the agency of the Long Island Rail Road, ten tons of flounders per day. Cod-fish are taken along the entire south coast of the island, from the 1st of November until severe cold weather and storms prevent farther fishing. This is one of our most valuable food-fishes, and off Rye Beach as many as twenty tons have been taken in a single day. Blue-fish are spring and summer fishes, and afford great sport in their season, when there are any in the water to be taken. The following synopsis of blue-fish catching in the Great South Bay, is taken from *Forest and Stream* of August 9, 1883. "1877-78, fishing 7 times, catch 194 fish, average 28 fish each day; 1879, 9 times, catch 470 fish, average 52 each day; 1880, 7 times, catch 267 fish, average 38 each day; 1881, 8 times, catch 56 fish, average 7 each day; 1882, 6 times and no fish." The above records, as will be seen, pertain more particularly to fish upon the south side of the Island, but some, if not all of these fish, were formerly abundant on the north side of the island; but as a rule they are absent or very scarce there at present. Just what has caused this scarcity, and what are the reasons for the growing rarity and irregularity of the fishes all around the island, may be questions which might receive numerous answers, as certainly many causes have been in operation during the past decade or longer, tending in this direction; but there seems to be no question that some effort should be made to remedy the evil. The Commissioners of Fisheries of the State, or at least one of them, came to this conclusion some time ago, and in 1881, Mr. Fred Mather was sent to look over the island for a place which would be suitable for the prosecution of such work as in all likelihood would be required to be done at a sea-side hatchery. Mr. M. reported upon a location at Cold Spring on the north shore of the island, and in 1882, the Commissioners made arrangements to locate a hatching-house there. This has now been in operation, with Mr. Mather as superintendent, since January, 1883, but only very recently has any work been undertaken upon the sea fishes. This work will, however, without doubt, be carried on somewhat extensively this coming season and more vigorously in future years, as arrangements have now been made, whereby salt-water is brought directly from Cold Spring harbor into the hatching-house. Something will also unquestionably be done in the direction of oyster propagation, since the oysters of Long Island waters form one of our most valuable sources of food supplies; and their extermination is merely a question of time, if nothing is done to prevent the waste and protect the extensive oyster beds. Perhaps the only effort ever made on Long Island by a private individual in the direction of the

cultivation of any of the sea fishes, was made last season (1882) by Mr. Donnelly of Gravesend. He caught about 75 small striped bass and placed them in a large pen constructed in one of the streams flowing into Gravesend Bay. For a time, nothing was seen of them; and finally, thinking they had escaped in some manner from the pen, a seine was dragged in the enclosure, and at the first haul some 40 of the bass were taken, when it was found that there had been an average increase in weight of about $\frac{3}{4}$ of a pound. This was very gratifying to Mr. D., as the fish were very small when they were penned, and it offers an instructive example for others who have the opportunity of caging this fine fish. Very interesting results may be expected if Mr. D. is able to keep them until they are large and old enough to breed.

It may not be out of place to notice here the occurrence of white-bait along the shores of the Island, and especially at Gravesend Bay. This delicate little titbit was first brought to the attention of the fish-loving public by Mr. E. G. Blackford in 1878, and was served in this country at a special white-bait dinner at the Manhattan Hotel, Coney Island, on May 15th, 1878.

It is now regularly placed on sale at the Fulton Market in New York, during the spring months, and meets with a ready sale.

Fish culture on Long Island can boast thus far of success, only in the direction of the propagation of trout and black bass, with excellent intentions in more extended fields. It is to be hoped that, during the next decade, the most sanguine anticipations for success in these progressive efforts may be more than realized.

EUGENE G. BLACKFORD, New York State Fish Commissioner. —Our times have originated a class of men, limited in number, peculiar to American enterprise and intelligence. While actively engaged in business pursuits, they have applied a knowledge and experience therein obtained to purposes of the highest public importance. No person stands more prominent and more useful in this class than Eugene G. Blackford, one of the Fish Commissioners of the State of New York, and the leading fish dealer in the city of New York.

First and always a business man, he is also conspicuous for his efforts in scientific and practical pisciculture (or fish-culture). He has applied his intelligence with great comprehensiveness to the study of fish and their propagation by artificial means; and, at the same time, with rare enterprise, has sought a supply of every variety of wholesome fish-food for the markets and our tables. Scientific men and institutions look to him for information, statistics, and specimens, and through his business, he makes the same knowledge of immediate and practical benefit to the people. It is seldom that two such relations as this can exist, and when they do, the individual who creates them is certain to be of marked and unusual character.

Eugene G. Blackford was born at Morristown, N. J., Aug. 8, 1839. His father, Gilbert L. Blackford, was a carriage builder at that place, and finally removed, with his family, to New York, and entered into other business. Both a grandfather and a great-grandfather of our subject were Baptist ministers. He was an infant when his father re-



Eugene S. Blackford

men, I to New York, and the entire cargo has been placed in the city and Brooklyn.

At the age of thirteen he went into the office of Captain A. W. Walker, in South Street, who conducted a ship-crocker business. The old gentleman wanted to give Eugene a commercial education, and was much distressed when he accidentally discovered that the young man kept to himself the various mathematics and appliances of the science of commerce. In fact Eugene had even then a love for numbers, and he made drawings and continued to turn his attention to such a line of work that he was dismissed by the old captain, who took him to his home life, and he began at a counting-house, where he took some lessons in order to be ready. He was then given a salary of \$1.00 in the company of Captain Walker.

However, he found that, whatever tastes of this nature he might have, he could be obliged to follow some business occupation. He went around first as a freight broker, connected with the Hartford steamboats, and then served with the Camden and Amboy Railroad Company. After this he was two years with A. T. Stewart, at the great store, corner of Broadway and Chambers street. Mr. Blackford attributes much of his success in business to the training he received in Mr. Stewart's establishment.

His next employment was as book-keeper for Middleton, Carman & Co., fish dealers in Fulton Market. When he left them he began business for himself in the market, and he has continued it up to this time. He began, rather unexpectedly to himself, by having a stand offered to him on very favorable terms. He had only one hundred and ten dollars in cash, but he was allowed to pay for the stand at his convenience.

He at once threw his whole energy and tact into the business. From one stand it has grown to thirteen, doing an immense retail business, under the sole name of Eugene G. Blackford. Opposite the market, in Beekman street, is the firm of Blackford & Co., wholesale fish dealers and commission merchants; at barge 7, foot of West Tenth street, is still another firm—Blackford & Stringham, wholesale and retail dealers in oysters and clams. Blackford & Co. are agents for the Chalker Shad Co., and the Dennison Shad Co., of Saybrook, Conn., and receive a large part of the catch of the Connecticut river. The Blackford Fish Company, E. G. Blackford, treasurer, lease five miles of the shore at Montauk, Long Island, and fish are sent daily to Fulton Market.

The market near the Fulton Market was in a most dilapidated condition, from absolute age and decay. Largely through the efforts of Mr. Blackford an appropriation of \$180,000 was obtained to rebuild the structure, which is now completed. The building occupies an entire block, and is 206 feet by 171 feet and 161 feet, and in its remodeled form is an imposing building of brick. The building is considered one of the best and cheapest public edifices ever erected in New York.

At the corner of South and Beekman streets, Mr. Blackford has fitted up the most magnificent series of fish stands, offices, etc., to be seen in the world. The purchase of the right in the stands and fixtures represents an outlay of twenty-two thousand dollars. Entering from the general market, you are struck by a large mirror of plate-glass, occupying a window twenty feet high. On each side are fifty rows of small cases containing, not only the most beautiful designs of aquatic flowers, fishes, and amphibious beasts. At convenient places are tanks of glass and Portland marble, containing live brook trout and other choice fish and plants. In some fish-hatching jars are shown young trout, and the rose and bluish eel from the aquarium of Mr. Valenciennes, of Paris, thought of Mexican parentage.

The stand for the display of fish have made of iron, and are otherwise completely finished. A fine open building with hard wood and iron, and the elegant office, waiting-rooms, and better apartments are all finished in the most tasteful, artistic and literary style, and have applied to the building "without regard to expense." In such a place as this one sees and appreciates fish as in no other, and it is also one in which you at once conclude that the proprietor is a man of both refined taste and large liberality.

One of the fine books of the London or Paris library of Mr. Blackford, and will be prepared for advanced research in all departments relating to fish. He has more than two libraries on this subject ever collected, and it will be placed here for the use of all. Models and paintings of rare fish, and everything useful for the student of ichthyology, will form parts of the collection.

Few persons realize the value of the sea and inland fisheries. Those of the entire world reach an aggregate of one hundred and twenty millions of dollars. In 1873, the sea fisheries of the United States were reported at over eleven millions of dollars, and the value of the mackerel, herring, shad, white fish, oysters, etc., sold in the coast and lake markets of the United States is over seven millions. The amount of fish sold in Fulton Market, from March, 1879, to March, 1880, was something over thirty-four millions of pounds. The sales at this port have now reached forty-five millions of pounds, and the sales at Fulton Market are ninety per cent. of the whole. During the year 1880, Mr. Blackford's statistics show the sale in the New York markets of 1,330,000 shad. The total amount of Hudson River shad sold was 445,000, about half of the entire catch of the river. In two years there were 53,609,000 young shad placed in this river alone by the State Fish Commissioners.

As we have stated, Mr. Blackford is the leading dealer. In his ice-vaults can be seen tons upon tons of frozen fish that he can keep perfectly fresh for years. He has a freezing station in Canada, where the salmon are frozen as fast as they are caught. Trout are then packed in refrigerators, and sent to New York. Shad and salmon do not keep well. Spanish mackerel, according to Mr. Blackford, "the best fish in the world," are frozen—each wrapped in a separate piece of paper. Frogs come mainly from Canada. Two hundred pounds of frogs' legs are often sold daily at Mr. Blackford's stands. In the eel tanks 10,000 pounds of eels can be seen at one time, which fish is now raised for market. Mr. Blackford sells all the terrapins he can obtain, and is the largest receiver of green turtles, of which piles in a frozen condition can be seen in his vaults.

He introduced the salmon from the Restigouche river, the catch of which he largely controls, and sells in Fulton Market, in forty-eight hours after they are caught. He imports sole and turbot in the refrigerators of ocean steamers from England. He holds the opinion, however, that the fish of the American waters are the best that swim.

In November, 1881, a very extraordinary catch of small fish was made by the Blackford Fishing Company, at Montauk Point, L. I. Some 1,000 pounds of fish were caught, and the larger portion of the same, from 10 to 15 pounds each, while, perhaps, as many more escaped from the nets.

In August, 1881, Mr. Blackford received the first live gougeron ever landed in the United States, having been sent by Mr. Valenciennes, of Paris. The color of the young beautiful blue, with yellow spots. It was sent immediately to Professor Baird, Secretary of the Smithsonian Institution. Later the fish had received a black band from the gill-plates, and was a young one. It was sent to the Smithsonian Institution, and is the first of its kind ever seen. In November, 1881,

he received from Bremen two tin cans containing sixty blue
 The American fish introduced to the New York
 public by Mr. Blackford have become popular. Among these
 is the red snapper, *Lutjanus Blackfordii*. This fish has received its
 scientific name from him, as will appear by the following let-
 ter.

WASHINGTON, May 19, 1878.

My Dear Mr. Blackford:

"You will be surprised to hear that the red snapper has
 been introduced to the New York public. I had suspected it for
 some time, and a thorough examination by Dr. Bean and
 myself confirmed it. We have been looking for a namesake
 for you, and, if you consent to be godfather, this beautiful
 fish shall be *Lutjanus Blackfordii*—Goode & Bean. I am glad
 to have a share in such a memorial of your services to ichthy-

"Yours sincerely,
 "J. BROWN GOODE."

Mr. Blackford was the first to discover that we had in
 American waters a fish identical with the famous English
 white-bait. In 1875 he first conceived the idea of his grand
 April trout exhibition, which now annually draws crowds to
 behold the display, many coming from distant parts of the
 United States. Specimens of trout from distant countries and
 many of our States, and of cultivated trout from all the lead-
 ing fish culturists and fish commissioners of the United States,
 are displayed. The last exhibition cost Mr. Blackford \$2,500,
 besides a great deal of labor. A beautiful and highly artistic
 invitation to the "Grand Opening of the Trout Season" is
 issued by Mr. Blackford. The exhibition lasts three days, and
 is considered one of the "sights" of New York.

It was in 1872 that Mr. Blackford began to give attention to
 the history and propagation of fish. He then made the ac-
 quaintance of Professor Baird, of the Smithsonian Institu-
 tion, and who became United States Commissioner of Fish
 and Fisheries in 1871. The American Fish Culturists' Asso-
 ciation was organized, of which he became a prominent
 member, and has for seven years been the treasurer. At
 the annual meetings important papers are read, and the Asso-
 ciation has accomplished much for fish culture. "White-bait
 in American Waters" was the title of a paper read by Mr.
 Blackford at the annual meeting, March 25, 1879. An annual
 fish dinner also takes place, and at the one held in the Cen-
 tennial grounds, October 6, 1876, the *menu* included some
 fifty-eight varieties of fish from all parts of the globe. Mr.
 Blackford undertook the immense work of collecting and
 preparing the fish. The first line of the bill of fare reads:
 "Green Turtle, a la Blackford." He was also in charge of
 the fish exhibit at the Centennial.

We may mention that Mr. Blackford is a great caterer for
 fish dinners, whereat he can also make a good "after-din-
 ner" speech. He is also a member of the Ichthyophagous
 Club, which has an annual dinner composed of fish strange
 to the palate as well as that of an edible kind. Here are
 some of the former from a *menu* before us: "Consomme," of
 shark-fin a la chinoise; Razor clams farcis, a la Nelson; Tar-
 telets of horse-shoe crabs, a la Belle Helene," etc., etc.

In May, 1879, Mr. Blackford was appointed by Governor
 Robinson one of the four Fish Commissioners for the State of
 New York. He has served with a great deal of zeal and use-
 fulness. The twelfth annual report has just been sent to the
 Legislature. The state hatching-house is at Caledonia, and
 is in a flourishing condition. The operations in shad-hatch-
 ing commenced in 1878, and continued about May 15,
 and the work is continued until about the 1st of July. A
 fishing camp is established at some point below Albany.
 The netting must be done in the night time, as shad never
 come in the day. It is hoped that year to year will

6,000,000 to 8,000,000 of fry. Under a law passed by the
 Legislature in 1879, Commissioner Blackford was appointed
 a committee to examine the streams of Long Island, and to
 take reasonable steps for the propagation of trout. After
 much search, Commissioner Blackford secured eight acres at
 Cold Spring at the nominal rent of one dollar a year for ten
 years. At a meeting of the commissioners held January 11,
 1882, a resolution was passed to establish a hatchery at Cold
 Spring, and appropriating \$3,000 to equip and conduct it
 under the direction of Commissioners Blackford and Roose-
 velt.

In February, 1882, an interesting experiment of stripping
 the cod-fish of the spawn was made at Fulton Market. Mr.
 Blackford suggested the matter to Professor Baird, and took
 efficient means to carry the plan to success. Two employees
 of the United States Commission came from Washington for
 the work, which was under the personal supervision of Mr.
 Blackford. By March, over eleven millions of eggs had been
 obtained and forwarded to Washington. After hatching, the
 fish were placed in the water near Fortress Monroe.

Mr. Blackford collected and shipped one hundred and
 thirty tons of exhibits to the International Fishery Exhi-
 bition held in Berlin in 1880. He received a silver medal for
 his own exhibit, as he did at the Centennial. He sent a fine
 exhibit for the Fish Exhibition which opened in Edinburgh,
 Scotland, April 12, 1882. We could give many other particu-
 lars of Mr. Blackford's efforts in behalf of the fish interests
 generally, but space will not permit it.

He was married at the age of twenty-one to Miss Frances
 L. Green, of New York, and has three children. Their mar-
 ried life has been a very happy one. He was baptised and
 married by the same clergyman, the late Rev. Ira R. Stew-
 ard. He joined a Baptist church at an early period, and is
 now a prominent member of the Washington Avenue Bap-
 tist Church of Brooklyn. During 1876, 1877, and 1878 he
 was president of the Sunday-School Association of the East-
 ern District of Brooklyn. He acted as grand marshal of the
 largest Sunday-school parade in the world, being composed
 of 25,000 children and teachers in solid column. He has re-
 sided in Brooklyn for many years. He is also a liberal friend
 of the Howard Mission and Home for Little Wanderers in
 New York.

Mr. Blackford is of an erect and full figure. His head is
 large and his features are refined and expressive. His manners
 are easy, self-possessed and sincere. To be a gentleman is
 natural to him, and he appears as one under all circum-
 stances. No man comes more in contact with opposite
 classes of his fellow-men, and no one can better adapt him-
 self to each individual. He is frank, courteous, and good-
 natured, always showing that consideration for others which
 commands it toward himself. His kindness of heart, and
 his constant desire to please and oblige, endear him to those
 who know him intimately, and impress the most casual ac-
 quaintance. In the world he is pre-eminently a popular
 man with the high and the humble; while, in his private
 walks, he is beloved for manifold virtues and thoughtful
 evidences of personal regard. In his home he extends a lib-
 eral hospitality, brightened by his own cheerful nature, and
 made charming by his surroundings of comfort and luxury.

His life, yet in its full vigor, has been remarkable for its
 well-directed efforts and success. No matter where you see
 him he is found a busy and useful man. Alert in all private
 enterprise, and eager to promote the public good, he has made
 integrity and morality the rule of his whole career.

BENJAMIN W. WEST, Commission Merchant, of No. 1 Ful-
 ton Fish Market, New York city, was born at Long Branch,



Benjamin H. West

Monmouth county, N. J., Sept. 15th, 1835. Mr. West's father, Elihu, as well as his paternal grandparents, were residents of the same county, his father for many years keeping a hotel there. During the early period of his life he received a common school education, and when thirteen years old came to New York to help his father, who, with his partner, Mr. Wooley, had a fish stand in Fulton Market. Benjamin made the trip in a charcoal schooner, and landed at the foot of Gouverneur street. His pay was twenty shillings a week, out of which sixteen shillings went for board. The young man worked hard, sleeping in the office the forepart of the night, the latter part of which was always devoted to work; and his wages gradually increased, until in 1853 he was obtaining eight shillings per week. Then, at eighteen years old, he resolved to consummate the most important event in the history of any man or woman—to take a partner for life in the great struggle for a place in the ranks of successful men; so, in November, 1853, he married Sarah W. Clark, whose mother is a striking resemblance corresponds exactly with his own.

The following spring, Mr. West formed a partnership with J. Pearsall, the firm name being J. Pearsall & Co. This arrangement lasted but one year, when Mr. Pearsall sold his interest to Matthew Ferguson, of which time (1855) the present firm, J. Pearsall & West, was constituted. Mr. Matthew Ferguson died in 1856, when his brother, Pulaski, took his place in the firm.

Mr. West was a charter member of the Fish and Fishmongers' Association, organized in 1869; and, with the exception of the first two years of its existence, has been its Secretary. The business of this firm has had a remarkable growth.

They have purchasing agents in Portland, Oregon; Boston, Mass.; Richabucto, British Provinces, and other fish centres, and own many vessels larger than they had before. The statistics showing the bulk handled in this world-renowned market are astonishing, and to Mr. West we are indebted for the following statement of facts: From March 1st, 1878, to March 1st, 1879, there was handled under the roof of Fulton Market, as follows: 33,529,960 pounds of weighed fish; 2,317,763 mackerel, sold by the piece; 661,594 shad, sold by the piece, and 46,451 gallons of scallops; and for March 1st, 1879, to March, 1st, 1880, 35,278,186 pounds weighed fish; 4,827,011 mackerel, sold by the piece; 700,000 shad, sold by the piece, and 56,000 gallons of scallops. Of all the fish handled in the market are cod-fish.

There is not only a greater variety of fish handled than in any other market in the world, but more pounds are sold, and money received therefor, than any other in the United States.

The cities of New York, Brooklyn, Jersey, Newark, Philadelphia, all draw their supplies from this focal point. A daily fish-train, under the supervision of this market, runs from Boston to New York via the New England Railroad, for the transportation of its produce.

There are one thousand sail of vessels off the coasts of Maine, Massachusetts, and the Territories, and employed ten to fifteen men, engaged in the fisheries, and seventy-one vessels are now being constructed.

There are seventy vessels owned and run exclusively by this market. Fish are not so plentiful as thirty years ago, and at Mr. West's house, that market, being, it is said, unique, are by the many thousands, mostly flying from

waters, frightened from their olden haunts; but any alarming question of the

of transportation from hitherto inaccessible points; even

Benjamin W. West has been successful. Gifted naturally with a body capable of much strain; a mind acute, resolute and comprehensive, and with clear judgment, his selection of his calling was particularly fortunate, illustrating

"The tools to the man that can use them."

In business life he has but one idea—the completion of a well-done day's work. In private life none more than he enters with zest into healthy enjoyments. Either at his fine home, No. 128 St. Mark's avenue, Brooklyn, N. Y., or his

SAMUEL LEON STORER was born 19th February, 1843, on Prospect street, Brooklyn, N. Y., and, during the early years of his life, attended the public schools of that city. When 16, he came to Fulton Market, and began work for \$6 per week, his duties being to sweep the office and run errands; being thus employed by the firms of Kingsland & Comstock, H. C. Rogers & Co., and Geo. F. Rogers. In 1867, Mr. Storer started in the fish business for himself, occupying quarters on the old Fulton Fish Market grounds, where he staid until 1869, when the present market was erected by the Fulton Fish-Mongers' Association, of which he became a charter member. He has from that time occupied Stand No. 16.

Mr. Storer's father, William B., was from 1821 to 1863, the year of his death, a well known oysterman of Fulton Market; and his mother, *née* Annie Rankin, is now living in Brooklyn. In 1863, Mr. Storer was married to Miss Carrie E. Delano, who was a worthy helpmate during their years of wedded life. In March, 1882, he suffered the great bereavement of her death. Mr. Storer's two sons, Willie B. and Alba C., aged respectively 16 and 14, bright and active lads, are now attending Dr. Holbrook's Military Academy, at Sing Sing. In addition to the Fulton Market stand, Mr. Storer owns the North River Fish and Game Co., Pier 24, North River, and is a partner of the firm of Geo. B. Weaver & Co., Stand Nos. 310 and 311, Washington Market—doing, with his different places, the largest fish business in the city. His houses for cold storage are at No. 226 Front street, New York city. For 13 years he has been a member of the Board of Directors of the Fulton Market Fish-Mongers' Association, and is now its Vice-President and its heaviest stockholder. He also owns a dozen fishing smacks, which are constantly engaged plying the waters to supply the increasing demands of his customers; and is the President of the East River Chemical company.

Mr. Storer is made on a generous scale, physically and mentally. His physique is unusually fine, being 6 feet 1½ inches in height, and weighing 232 lbs., with not an ounce of superfluous flesh. His brain is active, and his judgment quick in maturing, and remarkably accurate. His eminent success, with these endowments, could but be expected. His love for hunting and fishing does not lessen with increasing years and added business interests; but he enters into these ennobling sports with as much zest as a quarter of a century

ago. His impulses are all generous, which, with his genial manners, make him a most companionable of men.

SAMUEL B. MILLER, wholesale commission fish dealer, No. 7 Fulton Market, New York city, was born at Hempstead, Queens county, Long Island, March 13th, 1820. His father was a weaver; but, in 1827, came to Fulton Market, and from then until 1851, the year of his death, was engaged in the fish trade. When but 13 years of age, Mr. Miller came to this market and began work for his father, with whom he staid two years. At the expiration of this time, the ambitious lad made oath "never to work for wage again for a man on the land," and boldly struck out for himself as a dealer in fish.

This occupation he has followed ever since; and, April 1st, 1884, completed his fifty-first year as a fish merchant. In 1851, his brother Charles—a prominent citizen of Brooklyn, who, at the time of his decease, in October, 1873, was an Alderman of that city, representing the First Ward—became a partner, remaining in the firm until his death. In that year Mr. Miller gave an interest in his business to his two sons, Ernest M. and Clarence T., which they still retain; though the original firm name—S. B. Miller—remains unchanged.

Mr. Miller was married in 1841 to Miss Mary Ann Van Mater, by whom he had seven children, five of them—three daughters and two sons—now living. Mr. Miller is, in a certain sense, the Father of the Fulton Fish Market, being the oldest dealer there, and has seen the commencement of the business career of every other member. He is rich in reminiscences connected with this famous market. From him we learn that, while now there are about one hundred and fifty varieties of eatable fish sold in this Market, fifty years ago there were but six or eight. Oysters were then a staple article. Prices averaged about as now. The old market was merely a platform, and the marketmen were forced to transact their dealings, in all weather, without covering. In 1869, the fish dealers of the market secured a charter from the state of New York, empowering the Commissioners of the Sinking Fund of New York city to lease the bulkhead and one-half the slip to the "Fulton Market Fish-Mongers' Association," for the purpose of building and sustaining a public market. A stock company was formed with a capital of \$200,000—Mr. Miller being a charter member—and the bulkhead leased for ten years, paying therefor \$5,000 annually. The cost of the present ten-year lease being \$6,500 yearly, the present building, at a cost of \$135,000, was erected. The building is 193x64 feet, with 193 feet water front, and is entirely over water, being supported by 274 spiles, and is one of the strongest frame edifices in the state. Annual rentals are paid by all members; 250,000 lbs. fish are daily handled there.

Mr. Miller is a man possessing many necessary qualifications to success. His ability to endure long physical strain is remarkable; while, coupled with this is a keen, far-seeing mind and strict integrity. He expects the same of his fellow-men; and, while positive and quick in his business life, he is a most genial man. He has the rare faculty of inspiring both affection and respect in all with whom he comes in contact; and we are glad to note that his financial success has been commensurate with his intrinsic worth. He has for 13 years been President of the Fish-Mongers' Association.

In politics, Mr. Miller acted with the Whigs until the breaking out of our late war, from which time he has been a member of the Democratic party. In voting for city officers, it is the man he seeks to honor, not the party. Mr. Miller, while still a hard worker, is not unmindful of the pleasures of those near and dear to him, and a few years since erected a fine summer villa at Essex, Conn., at which his family pass the summer months.



Wm. W. Phelps



Samuel L. Storey

BROOKLYN MARKETS.

"From time immemorial," as will be seen by reference to *Stiles' History of Brooklyn*, the lower end of old Ferry (now Fulton) street was largely occupied by the butchers who slaughtered and dressed their beeves, and transported them to New York in row-boats or "periaguas." For the first quarter of the present century, the old public market stood here near the middle of the street, as described on pages, 107 to 110 of this History.

Prior to 1826, there was no public market for the sale of meats, fish or vegetables in Brooklyn. Those purchasing, bought direct from the farmers, who, with their immense carts, gathered on the commons, near what is now York street. In 1826, the village fathers caused the erection of a building, suitable for the sale of these necessities; and, in 1827, it was completed. It was located, with frontage, on York street, and bounded by James, Mercein and Garrison streets, and was generally known as the *James Street Market*. 27 butchers, 2 fishermen and 10 women hucksters were engaged there. Of the former, the names of such old citizens as Jas. Titus, Jno. F. Garrison, Jno. Furnley, Jno. Doughty, Samuel Talbert, David Reynolds, Edward Crummey, Henry Crummey and Leonard Klein are familiar. Of these, Henry Crummey and Mr. Klein are alone living. Mr. Crummey still follows the same business, and is the oldest butcher in the county. The occupants of the stands leased them of the village, and also paid a nominal sum for a license. It was illegal for meat to be sold at any other place in the village. The meat consumption, as shown by the following statement, was light:

Average weekly slaughter, beeves.....	40
" " " hogs.....	35
" " " sheep and lambs.....	90
" " " veal, in season.....	20

The market-men used to buy their supplies at the Bull's Head, on the Bowery, near Bayard street, New York city; the cattle mainly coming from Putnam, Dutchess and Westchester counties. In 1873, the market was torn down to make way for the Bridge.

Thirty years ago an average of 50 wagon loads of vegetables, during the season, came daily to the York street market. When the farmers were driven to find new quarters, the lower end of Fulton street proved to be the most central location, and still is. Last year (1883), over a hundred loads found sale daily in this and the contiguous streets. In early times a charge of 10 cents for each wagon was collected by clerks appointed for that purpose. Among these were Pat Ward and Mr. Herron. In 1882, this charge was increased to 25 cents. Matt Malloy was appointed, and

still continues to be, the collector for the district embraced in the Second Ward, and the matter seems to be in charge of the alderman of that Ward.

COPY OF MARKET TICKET											
1	2	3	4	5	6	7	8	9	10	11	12
MARKET RECEIPT.											
Paid 25c., 1884.											
Fulton Street, York Street, and the adjoining corners, Brooklyn.											
KEEP IN SIGHT UNTIL LEAVING THE MARKET											
10	11	12	13	14	15	16	17	18	19	20	21

The crowd in Fulton street is getting so great that market wagons are not allowed there during the busy hours; and the owners cannot understand why they are not allowed to use the space under the arches of the bridge, where ample accommodations could easily be made.

The *Atlantic Market*, built about 1830, was at the foot of Atlantic avenue, the water coming under the building. In 1846, this was sold to the Union Ferry Co., and is now used by them as an Engine House. In 1848, premises, north-west corner of Atlantic avenue and Hicks street, were rented, the dimensions being 25 feet wide by 150 feet deep, and eight meat and two vegetable stands were opened.

The two vegetable stands were kept by Mrs. McCarroll and Mrs. Watson, the latter of whom is now alive, aged 81 years. There was also one fish stand, run by Luke McLaughlin, who was succeeded by Hugh McLaughlin, *ex-Register*. In 1849-'50, the present market, south-east corner of Atlantic avenue and Hicks street, was erected by Jacob Frost, and, March 8th, 1850, was opened. Richard Dunn, of this city, bought the first pair of cattle killed for this market, and sold the first pound of beef retailed there. The weight of the cattle was 1,500 pounds and the cost, \$108. There were 32 stands, occupied in part by Messrs. Dorset, Lowery, McIntyre, McMannis, Bennett, Curry, Nevins, Fisher, Weeks, Oswald, Bumpford, Hawes, Dwyer, Mackie, Martin and Dunn. The completion of the L. I. R. R., from Greenpoint to the foot of the avenue, in 1844, made it the central point for sale and purchasing of meats and farm products.

In 1859, the property-owners concerned, by purchase, got steam removed from the street, and the railroad was changed, in 1862, to Hunter's Point. The sales at this market, owing to the opening of so many private ones, as the city grew, are not so large as formerly. There was

no change in the mode of conducting business until 1883, when one-half of the market was leased to the Brooklyn Beef Company.

The *Brooklyn Beef Company*, Commission Merchants in Chicago Dressed Beef, Atlantic Market, Nos. 74 and 76 Atlantic street, received its first invoice of beef, and opened to the public, August 13th, 1883. The cattle are slaughtered at Chicago, by G. F. & E. C. Swift, whose daily business is 1,500 head. Their manager in this city is W. H. Noyes, to whom we are indebted for these facts. He reports the results satisfactory in all respects. After allowing for escape of animal heat, the carcasses are shipped in refrigerator cars to this city, the trip taking three days. The first week they engaged in business here, they sold 100 head of cattle; the second, 200 head; and are now selling 300 head weekly. In February, 1884, they opened a branch at Williamsburg, which now has a trade of 200 head weekly.

There are killed in Brooklyn, weekly: 1,150 head of cattle, average weight, 750 lbs.; 3,500 head of sheep and lambs; 600 calves, from March to July; 200 calves, from July to December; 75 calves, from December to March. A large portion of the city's consumption is purchased in the New York city markets. No hogs to any amount are slaughtered in Kings county.

Brooklyn has long felt the need of a public market, where its retail trade can be furnished with those supplies of provisions for which it is yet so largely dependent upon the city of New York. The great bulk of the Long Island produce is to-day, as it has been for years, passing directly past the doors of the Brooklyn retailers and consumers, and over the ferries to New York, simply because it finds no suitable place here, where it can be received and held for distribution among our own community. Brooklyn desires to be, and naturally is, the depot for the sale of large and valuable island products; and its population could probably dispose of it all, with the proper management. Yet it goes over to New York, passing by the very doors of those for whom it is really designed, and who are obliged to follow it and then purchase it in a very deteriorated condition, and at a largely enhanced price. Brooklyn's citizens thus lose, also, the benefits of the trade which would naturally result, if the farmers had the opportunity of spending among them the money received from the sales of this produce. The Prospect Park Commission, in 1883, recommended that the *City Park*, in the Wallabout, bounded by Park and Flushing avenues, and Navy and Park streets (always a desolate, unattractive place, and eminently unsuitable for the purposes of public recreation), be converted into a public market.

Within the past year, there has been a renewed agitation by marketmen, retailers and others, and in the public press of Brooklyn, in regard to the establishment of a public market in this locality, which shall be com-

mensurate with the wants of this great city. In an article discussing the project, the *Eagle* says:

"If the city is to have a market it becomes important to know what Long Island farmers are likely to bring there to sell. The *dairies* would send 3,000,000 quarts of milk, 1,000,000 pounds of butter, and only a small quantity of cheese. The articles could be greatly increased. Suffolk county's dairy interests are hardly worth mentioning, but they could be made to exceed these of Queens without much efforts in the preparation of pasture lands. There are in Queens 7,500 cows, and 15,000 acres of pasture. Suffolk, on the other hand, has 50,000 acres of pasture land and only 9,000 cows. That is at the rate of five and a half acres to each cow. It needs but the addition of stock in Suffolk to increase the milk supply to 6,000,000 quarts and the butter supply in a corresponding ratio. In the *vegetable* line, these two counties market annually 5,000 bushels of peas, 2,000 bushels of beans, and Kings county produces about as much more. Potatoes form the staple crop. The yield of Kings county farms is about 600,000 bushels; of Queens, 800,000, and Suffolk 475,000 bushels. The orchards yield 338,000 bushels of apples, and 20,000 gallons of cider are manufactured. The grapes sent to market weigh 200,000 pounds. Kings county farmers do not engage extensively in *poultry* breeding, but this is an extensive industry in the other counties. Queens markets \$75,000 worth, sending 800 lambs and 3,500 poultry and \$60,000 worth of eggs; Suffolk, \$85,000 worth of poultry and \$10,000 worth of eggs. The quantity of *dressed meat* sent from farms to market is, in Suffolk, 1,000 lambs and 11,000 swine. A good many more are slaughtered for home consumption. To these crops are to be added such other products as cabbage, parsnips, carrots, celery, beets, spinach, rhubarb, asparagus, cauliflower, tomatoes, turnips and corn. A great *hay market* would be an important feature of the Wallabout system. The city could secure honest weight; for consumers are being swindled at the rate of three hundred pounds to every ton. Stablemen insist on being feed, and the speculator takes double the sum out of the pocket of the purchaser. There does not appear to be any secret about it. Kings county does not produce half as much hay as is consumed. Queens has 50,000 tons of hay to spare every year, and Suffolk, 65,000 tons. Suffolk is more essentially a hay-growing district. It costs less to produce hay and market it than any other crop. Brooklyn gets nearly the entire crop. Kings has 9,110 acres in farms; Queens has 117,686 acres; and Suffolk, 156,760 acres, with 250,000 acres waiting to be tilled. The gross sales annually are: Kings, \$1,000,000; Queens, \$3,125,000; Suffolk, \$1,600,000. It will be seen that those three agricultural counties can furnish the products of a market business representing \$5,825,000 annually. It is claimed that the present yield can be increased six-fold. The above synopsis does not include the *fisheries*. The product of the ocean and bay, not including oysters, is estimated at half a million dollars annually. A great part of these products would find their way to the Wallabout. The *oyster* industry represents a million dollars a year, but only a small part of the oyster crop would go to the Wallabout. During the winter season the cod-fish catch amounts to hundreds of tons, but taking the business the year round, and calculating the various species, it is safe to say that the fish market is equal to 250 tons a week.

The market fee in New York is 25 cents per day for each wagon, and the farmers of Long Island pay into the municipal treasury over \$100,000 each year. A business of \$10,000,000 could be carried on in a market at the Wallabout, within two years from the date of its establishment."

OCKER
JAN 1 / 1980

